Managerial competencies, roles, and effectiveness; rater perceptions and organizational measures

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Acknowledgements

In September 2002 I started on a journey into the, to me, unknown world of academic knowledge. Now, almost eight years later, it feels as if my journey has just begun. Eight years older and 5.700 hours of study wiser, this last phase of research and writing my thesis taught me that there is still a lifetime of learning and a whole world of knowledge to pursue and explore.

The present thesis had its own challenges which I could not have met without the support of Judith, my supervisor. I thank her for her swift and clear revisions of my work and for sharing her insights and experience whenever I needed them. Of course, in the end, I take full responsibility for the text and content of this paper.

Eight years of studying between 10 and 15 hours a week is demanding, sometimes more on ones surroundings than on oneself. It would not have been possible without the support of my family, whom I would like to thank. GP and GM, thank you for giving me courage and teaching me that everything can be achieved with perseverance and stamina. Your willingness to debate on any subject, and interest in the courses I took were invaluable. Lineke and Bert, I owe you for your willingness to complete every survey I send you over the past eight years, thanks for being my 'guinea pigs'. Finally, I thank Bert-Jan, for being my planner, Wailing Wall, rock, and sense. You urged me never to give up but also to stop and 'smell the roses' whenever I pushed myself to hard.

Combining a study with a full-time job can be difficult at times. Yet, with Management Sciences as study, it also proved to be an advantage as case studies were readily available. I always say that my colleagues are not my friends but I must admit that some colleagues are more equal than others. Jan Br., without your stimulus and guidance, I would never have started in the first place, therefore I thank you sincerely. I also thank Bert de R., Hans B., Leyla Y., and Monica van E. for their support, positivity, and good fellowship.

Being aware of the fact that I am unable to express my gratitude properly to everyone I owe, I would like to end with a quote, or rather a life lesson, of Albert Einstein, which reflects my thoughts:

Everything that can be counted does not necessarily count;
everything that counts cannot necessarily be counted.

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Abstract

When competencies and managerial effectiveness are measured using 360-degree feedback, research has often found rating incongruence among different rater sources. Understanding the reasons behind the inconsistencies or differences in perspectives of rater groups can improve interpretation of 360-degree feedback. This is important because results from 360-degree feedback are used by the ratee for training and development, and by organizations for making decisions, for example on pay or promotion (Spencer, 2003; Borman, 1997; Nagel, 1997). Also, an immediate objective behind the use of 360-degree feedback is enhanced managerial effectiveness. However, there is not much research on 360-degree feedback that has unravelled the reasons underlying the substantive differences between rater groups.

This study aims at filling this gap. It puts focus on the additional value of managerial role perceptions of different rater groups in the relationship between management competencies and managerial effectiveness. Data are used from 242 surveys, completed by subordinates, peers, and supervisors, on 40 managers from an organization in the business services sector in The Netherlands.

Results show that subordinates, peers, and supervisors have distinct perspectives on the prerequisites of effective managers. The managerial roles that a rater group finds important for a manager to conduct have additional value in the relationship between perceived competencies and effectiveness. As alignment of managerial roles to contextual factors may occur, the additional value of managerial role perceptions might be connected to the organizational context. For both subordinates and supervisors, the more results oriented competencies show the strongest associations with managerial effectiveness. Peers, however, associate both results and relationship oriented competencies equally with managerial effectiveness. Significant relations between perceived competencies and more objective criteria of managerial effectiveness are also found for peers. In addition, for all rater groups, specific competencies are positively associated with perceived effectiveness but not, or negatively, with objective criteria of effectiveness, indicating that implicit leadership theories might influence rater perspectives.

In conclusion, there is a link between managerial effectiveness outcomes and the perceptions that subordinates, peers and supervisors have concerning management competencies and managerial roles. We argue that managerial effectiveness should be examined and assessed using multi-perspective approaches. For this purpose, 360-degree feedback instruments could be customized for particular referent groups. The results of the study are discussed in more detail and several recommendations are given for future research.

1 Introduction and problem statement

360-degree feedback is also known as "multi-rater feedback", "multisource feedback", or "multisource assessment". This type of feedback is provided by subordinates, peers, and supervisors and also includes a self-assessment. When competencies and managerial effectiveness are measured using 360-degree feedback, research has often found *rating incongruence* among different rater sources (see e.g. Heinsman, 2008; Hassan and Rohrbaugh, 2007; Hooijberg and Choi, 2000). Rating incongruence is defined as the degree to which ratings from multiple sources are dissimilar to each other. Current thinking suggests that rating incongruence exists for valid reasons - even though there is lack of agreement on the nature of these reasons - and should be well integrated in any process of performance appraisal (Hassan and Rohrbaugh, 2007; Hooijberg and Choi, 2000; Borman, 1997; Salam, Cox, and Sims, 1997; Tornow, 1993).

Explanations for rating incongruence can be found in arguments on methodological omissions, such as the lack of use of multi-source methods and/or not comparing the ratings from 360-degree feedback with objective or independent measures of competencies, performance or effectiveness criteria (Heinsman, 2008; Mersman and Donaldson, 2005; Luken, 2004; De Hoogh, Den Hartog, Thierry, Van den Berg, Van der Weide, and Wilderom, 2004; Atkins and Wood, 2002; Luthans, Welsh, and Taylor, 1988).

Other explanations are derived from the perspective that management is a universal set of functions and roles underpinned by competencies. When assessing managerial effectiveness, competencies are important and relevant. However, different rater sources also pay attention to different leadership aspects, such as managerial roles. A manager takes on different roles during the interaction with subordinates, peers and supervisors. Therefore, some researchers assume that raters from different organizational levels - like subordinates, peers and supervisors - observe different behaviours due to the different roles a manager takes on (Warr and Bourne, 2000; Nagel, 1997). Others assume that these rater groups see essentially the same behaviour but may interpret or weight competencies differently (Toegel and Conger, 2003; Atkins and Wood, 2002; Hooijberg and Choi, 2000). Also, there are researchers assuming both reasonings are valid (e.g. Heinsman, 2008; Hassan and Rohrbaugh, 2007; Borman, 1997; Conway and Huffcutt, 1997).

Given the fact that *competencies* are couched in terms of production and achievement and that they are often formulated as behavioural indicators, competencies may be considered as prerequisites of effective performance (Heinsman, 2008). This makes a direct relationship between competencies and effectiveness conceivable. Spencer (2003) even *defined* the term competency in this fashion: a competency is a reliably measurable, relatively enduring characteristic (or combination of characteristics) of a person, team or organization, which causes and statistically predicts a criterion level of performance. The relationship between competencies and effectiveness or performance has been empirically verified in several studies (e.g., Breman, and Bruinsma, 2006; Smither, London, and Reilly, 2005; Posner and Kouzes, 1988).

Hooijberg and Choi (2000) find systematic differences in the *managerial roles* various constituents associate with effectiveness. They argue that, in an organizational context, it is expected that people will find those managerial roles more important that will better enable them - or the person they are assessing - to be effective. These perspectives on managerial roles might therefore vary according to the organizational position of the rater and subsequently influence his or her interpretation and assessment of management competencies.

The results from 360-degree feedback are used by the ratee (i.e. a manager) to plan training and development, and by organizations for making decisions, for example on pay or promotion (Hassan and Rohrbaugh, 2007; Toegel and Conger, 2003; Conway, Lombardo, and Sanders, 2001; Borman, 1997). Likewise, 360-degree feedback enables individuals to identify specific discrepancies between their current behaviour and what is expected, and delivers various perspectives (Brutus, Fleenor, and Tisak, 1999; Ashford and Tsui, 1991). An immediate objective behind the considerable use of 360-degree feedback is enhanced *managerial effectiveness*, while a long-term goal is improved organizational effectiveness (Levy and Williams, 2004; Furnham and Stringfield, 1998). In practice, competencies are often used to distinguish effective from ineffective managers (e.g., Borman and Brush, 1993). Adequate measurement of management competencies is therefore important. And, the different perspectives of raters on management competencies and managerial roles are also important to understand.

Hence, 360-degree feedback is an important management technique that has attracted both widespread application and close academic scrutiny (Levy and Williams, 2004; Toegel and Conger, 2003; Waldman, Atwater, and Antonioni, 1998; Borman, 1997). Still, few studies examined how well ratings from 360-degree feedback programs predict an independent criterion like managerial effectiveness (Atkins and Wood, 2002). And, although a direct link between competencies and effectiveness is assumed, relatively scarce research has been conducted to verify exactly which competencies are related to effectiveness (Heinsman, 2008). Furthermore, little is known about the influence of managerial role perceptions of different rater groups on these relationships. With this study we like to address particularly this void in the literature.

A better understanding of different rater perspectives contributes to the development and usefulness of 360-degree feedback tools. By clarifying the elements for disagreement, one can determine which raters would be appropriate for what evaluation purposes, thus better enabling a multi-perspective approach. Subsequently, one can sub group the raters according to their level in the organization and only let them rate the relevant dimensions (Toegel and Conger, 2003; Tsui and Ohlott, 1988). This study follows three steps to put focus on the perceptions of different rater groups with regard to the additional value of managerial roles in the relationship between management competencies and managerial effectiveness.

First, we compare the perspectives of different rater groups on management competencies and perceived managerial effectiveness. Second, we provide insights in the additional value of perceived managerial roles in the relationship between competencies and managerial effectiveness. Third, and finally, this study explores the relationship between competencies, managerial roles, and managerial effectiveness with both subjective and objective measures of effectiveness.

2 Literature review

2.1 360-degree feedback and rating incongruence

One of the great appeals of 360-degree assessment is its numerical scoring, which conveys the impression of objectivity and fairness (Toegel and Conger, 2003). When used for performance appraisal, the goal of 360-degree assessment is accuracy. When used for development the goal is honest perspectives, even if these vary among evaluators or contradict one another. In both cases the information is valid. The rationale behind the different rater views being valid is that these views reflect legitimate differences in the perceptions of the ratee's various roles.

Empirical studies have revealed that a combination of supervisor, peer, subordinate and self-evaluations produces a better balance of reliability, (incremental) validity and accuracy (James, 2003; Scullen, Mount, and Judge, 2003; Conway, Lombardo, and Sanders, 2001; Facteau and Craig, 2001); higher quality results than single source measures (Church and Bracken, 1997); and a more comprehensive picture of performance (Fletcher and Baldry, 1999).

Still, when 360-degree feedback ratings are conducted, the different rater groups tend to disagree in their ratings (Atkins and Wood, 2002; Borman, 1997; Harris and Schaubroeck, 1988; Tsui and Ohlott, 1988). However, it remains unclear how this disagreement can be explained (Hassan and Rohrbaugh, 2007; Bradley, 2004; Borman, 1997).

Understanding the reasons behind the inconsistencies and the perspective and bias of the rater can improve interpretation of 360-degree feedback (Bradley, 2004; Mersman and Donaldson, 2000). The utility of 360-degree feedback might actually derive from understanding the nature of rating differences observed across rater levels and interpreting them accurately to guide managers' behavioural change (Heinsman, 2008; Mersman and Donaldson, 2000; Borman, 1997; Murphy and Cleveland, 1995).

One assumption made by practitioners is that the multiple sources of ratings each offer somewhat unique data on the ratee (Borman, 1997). If this assumption is wrong, there would be little need to collect ratings from multiple sources. However, managers with inconsistent patterns of feedback from their supervisors, peers, and subordinates may find the feedback confusing, unhelpful, and may feel rather unmotivated to rely on it for improving their performance (Miller and Cardy, 2002). Therefore, the differences in the perspectives of raters should be considered when providing feedback and guidance to managers for their professional development (Hassan and Rohrbaugh, 2007). Furthermore, managers themselves could be more effective if they were more aware of what managerial roles their subordinates, peers, and supervisors find important for managerial effectiveness (Hooijberg, and Choi, 2000).

Consequently one would not expect, nor desire, high interrater agreement across rater sources, but merely (to obtain) relatively good agreement within each of the rater perspectives. Accordingly, several studies have shown that interrater agreement (across sources) is low to moderate and intrarater agreement (within sources) is higher (Heinsman, 2008; Borman, 1997). Early examples are, for instance, Berry, Nelson, and McNally (1966) who found lower interrater correlations than intrarater correlations (.34 versus .55) on performance ratings. Similarly, Gunderson and Nelson (1966) found that within organizational level reliabilities of performance ratings were higher than across-level reliabilities (.74 versus .50), which is comparable with Borman (1974) who found higher intrarater agreement (.45) than interrater agreement (.32) on dimensions of performance evaluations. More recent research shows similar results. For example Heinsman (2008) found mean correlations on competency ratings within sources to be higher than across sources (e.g., mean correlation within subordinates of .39 and between peers and supervisors of -.05). Organizational constituents might thus differ significantly in the management competencies and managerial roles they associate with effectiveness. Hence, it is important that the information is reasonably valid (e.g. correlating highly with actual competency and effectiveness levels) but also to have insight in the interrater disagreement.

2.2 Management competencies as predictors of managerial effectiveness

The term competency was first defined in 1973 by the American psychologist and consultant McClelland to indicate the human factors which competence depends upon. In the late 1970's the American Management Association (AMA) commissioned a US consultancy, the McBer Corporation, to conduct a major research exercise to determine those characteristics of managers which distinguished 'superior' performers from only 'average' performers. This work was reported by Boyatzis in 1982, who examined the competencies identified in the, by then, hundreds of established competency models. The McBer approach postulates that effective action or performance will only occur when three critical components concerning the job are consistent or 'fit' together. These are:

- the job's requirements or demands on the individual;
- the characteristics or abilities which enable an individual to demonstrate appropriate actions, called competencies, are representing the capability an individual brings to the job;
- the context of an organization, encompassing internal factors as organizational policies, procedures, mission, culture, resources, etc., and external factors such as the social, political and economic environment.

The interaction between these elements is shown in figure 1.

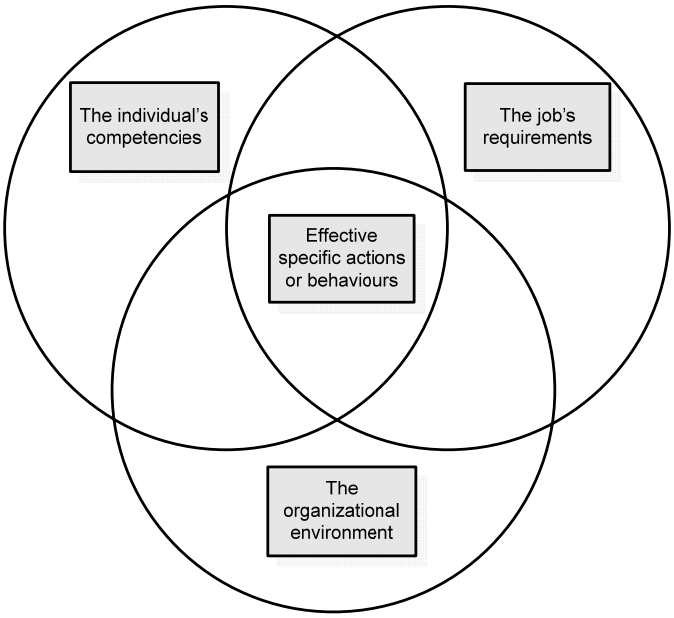

Figure 1 A model of effective job performance (Boyatzis, 1982)

Identifying the dimensions of managerial performance that are linked to effectiveness has been attempted in the existing mainstream management literature from a multitude of perspectives (Fraser and Zhu, 2008). The relationship between competencies and effectiveness is demonstrated empirically in several studies (e.g., Smither, London, and Reilly, 2005; O'Driscoll, Humphries, and Larsen, 1991; Posner and Kouzes, 1988). However, these studies use mostly indirect and general approaches (Heinsman, 2008). Three examples are briefly discussed below: Posner and Kouzes (1988), Hamlin (2002), and Breman and Bruinsma (2006).

Posner and Kouzes (1988) examined relationships between leader practices and managerial effectiveness in order to establish the validity of a leader practices inventory. Analyses points out that nearly 55% of the variance in effectiveness is explained for by competency domains. The leader practices, or competencies, distinguished in their empirical study closely resemble the personal factors that Stogdill (1984) wrote about. Based on a literature review, he concluded that an average leader distinguishes him- or herself from the average group member by being more sociable, persistent, self-confident, and cooperative.

A meta-analysis by Hamlin (2002) found support for six positive behavioural criteria of managerial effectiveness. He concluded that these six criteria form a generic model of managerial effectiveness. However, the criteria are described as behaviours and hence resemble descriptions of competencies. Thus, although these criteria may be considered as prerequisites of managerial effectiveness, using them as measures of managerial effectiveness runs the risk of tautological results.

Breman and Bruinsma (2006) studied whether a high level of competency is consistent with a high level of performance using (and validating) a 360-degree feedback instrument. They demonstrated a positive relationship between competency and performance (determined on the basis of bonus and performance category) and simultaneously found support for the notion that competencies can contribute to a higher level of performance of employees and thereby of the organization as a whole.

These studies show that competencies and effectiveness are related. However, to our knowledge, only one study by Heinsman (2008) gives insight in the importance of the *separate* competencies for predicting effectiveness. The study shows that, overall, competencies are indeed related to perceived managerial effectiveness and explain 62% of the variance. Furthermore, her results show that in the eyes of subordinates, peers and supervisors, different competencies are considered as predictors of perceived managerial effectiveness. Managerial effectiveness is measured, in her study, as *perceived* by the raters. Heinsman notes that such a measure may be contaminated by implicit leadership theories, selective recall or halo effects (see also Koommoo-Welch, 2008; Judge, Bono, Ilies, and Gerhardt, 2002). It would therefore be interesting to study the value of different competencies per rater source in predicting *objective* managerial effectiveness. Also, the extent to which the outcomes relate to perceived managerial *roles* seems a fruitful research direction. For instance, Hooijberg and Choi (2000) focus on the direct relationship between leadership roles and effectiveness. Results show that indeed different raters hold different perspectives. But, as they study only the relation between leadership roles and managerial effectiveness, their results do not provide insights in the effects of perceived competencies.

Heinsman (2008), Toegel and Conger (2003) and Conway and Huffcutt (1997) expect that subordinates, peers, and supervisors are confronted with different competencies as a *result* of the manager's different roles. But they argue that not only the manager's role is responsible for the high within rater source relations. In their view a distinction can be made between the managerial roles that are important and relevant and the competencies a manager must posses in order to be effective. In addition to this distinction, competencies and roles are interconnected or even interdependent as well, as a manager must possess competencies at a certain level in order to be able to perform the various roles.

Given these arguments we decide to include measurements on objective managerial effectiveness and on perceived managerial roles in the present study.

2.3 Measuring managerial effectiveness

According to Luthans, Welsh, and Taylor (1988) the most commonly used *univariate measures* of performance or effectiveness include: a) overall performance (measured by subordinates, peers or supervisor ratings); b) productivity (actual output data); c) employee satisfaction (self-report questionnaires); d) profit (accounting data); and e) withdrawal (turnover or absenteeism data). Because *multivariate* models are more comprehensive and can account for a greater proportion of the variance in effectiveness, they state that these are generally looked upon as superior.

There are several studies that focused on nonself-report based *organizational outcomes*, as criterion measures to assess the effects of for example leadership style, such as organizations' net profit margin (Koene, Vogelaar, and Soeters, 2002; Waldman, Ramirez, House, and Puranam, 2001; Conway, Lombardo, and Sanders, 2001), business unit sales (e.g., De Hoogh et al., 2004; Barling, Weber, and Kelloway, 1996), and percentage of goals met regarding business unit performance (Howel and Avolio, 1993). While reducing common-source and common-method bias, organizational measures raise criticism by being overly narrow (Bommer, Johnson, Rich, Podsakoff, and MacKenzie, 1995), thus suffering from criterion deficiency. Given that managerial effectiveness or performance is a multifaceted construct composite of distinct components (Campbell, McHenry, and Wise, 1990), organizational measures do not include all outcomes that would be needed to adequately describe managerial effectiveness. In addition, managers in many organizations lack consensus about measures of output effectiveness or performance. Most organizations have explicit or de facto balanced scorecard variables, but these need to be probed to determine what management really values (Spencer, 2003). Furthermore, organizational measures are heavily dependent upon environmental constraints and may mostly reflect forces outside control of the manager, thus suffering from criterion contamination (Atkins and Wood, 2002; Heneman, 1986). Organizational outcome ratios may therefore underestimate the relationship between management and effectiveness or performance.

In sum, managerial effectiveness has a multi-dimensional nature and different types of criteria have their specific limitations. The use of multiple effectiveness indicators (multivariate measures) obtained through different methods therefore seems most practical and valuable. Comparison of the relationships found with different effectiveness outcomes may reveal the best available information on the relationship between management competencies and managerial effectiveness.

2.4 Additional value of managerial role perceptions

Each group of raters evaluates the manager from their own perspective, and each group typically has different scores for a given competency (Toegel and Conger, 2003; Penny, 2001; Borman, 1974). This perception is assumed to be influenced both by differences between rater groups and managers' behaviours - or the roles they engage in - toward members of a group. The organizational level of the observer is thought to influence the prototype or schema that the rater holds about leadership and management. This prototype then influences how the manager is perceived and rated by the observer (Lord, Brown, Harvey and Hall, 2001). Leadership contingency theories suggest that effective leaders perform different roles, depending upon the situation and the people involved (Hersey, Blanchard, and Johnson, 2001; Lord, Brown, and Freiberg, 1999; Fiedler, 1978; House, 1971).

Mintzberg (1973) describes work activities as contained within a set of ten behavioural roles. He argues that effective managers often combine and perform several roles simultaneously (see also: Leslie, Dalton, Ernst, and Deal, 2002). Quinn (1988) specifies eight interconnected roles that effective managers perform: director, producer, monitor, coordinator, facilitator, mentor, innovator, and broker. Using a 360-feedback approach, Hooijberg and Choi (2000) use Quinn's (1988) Competing Values Framework (CVF) to examine the extent to which raters vary in the leadership roles they associate with effectiveness. Although Quinn suggests that all eight leadership roles in his CVF need to be performed for a manager to be effective, they find support for six, rather than eight leadership roles. This is in line with Denison, Hooijberg, and Quinn (1995) who also describe a clustering of the producer, director and coordinator roles. It seems then, that although theoretical distinctions among these roles can be made, respondents consider these roles to be part of one underlying role, referred to as the 'goal achievement' role. Hooijberg and Choi adapted the CVF accordingly as can be seen in figure 2.

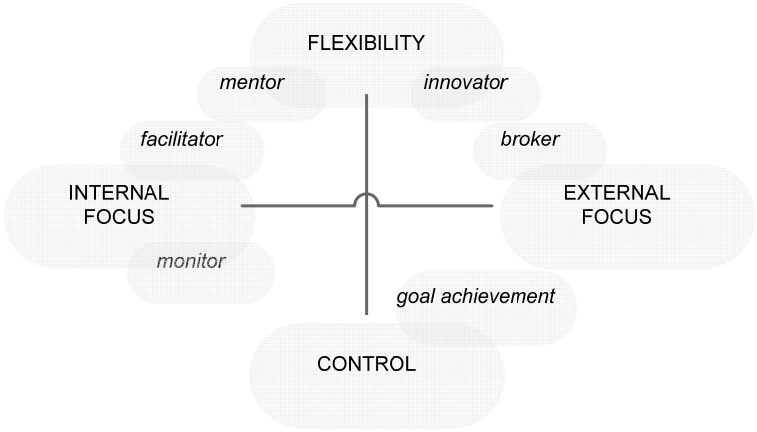

Figure 2 The Competing Values Framework (Hooijberg and Choi, 2000)

Hooijberg and Choi's results (2000) show that the leadership roles explain a significant proportion of variance in the perceptions of effectiveness, ranging from 37% to 69%. The different leadership roles that explain the variation indeed depend on who is rating the manager. Their study thus shows distinct subordinate, peer, and supervisor leadership effectiveness models. So, those who observe and evaluate managers have different perspectives on what managerial attributes are considered important and relevant (Hassan and Rohrbaugh, 2007). Different rater groups may focus on different managerial roles that they believe are most relevant to conduct managerial work activities. The importance and relevance of the managerial roles - in the eyes of the beholder - may therefore add value in the relationship between management competencies and managerial effectiveness. For each rater source, the effects on this relationship are expected to be different.

2.5 Research model and hypotheses

Following the previous, the current study incorporates perspectives of different rater groups on managerial roles, management competencies and managerial effectiveness. And, measurements on objective managerial effectiveness are included as these enable comparison of the relationships found with different effectiveness outcomes. The resultant research model is outlined in figure 3.

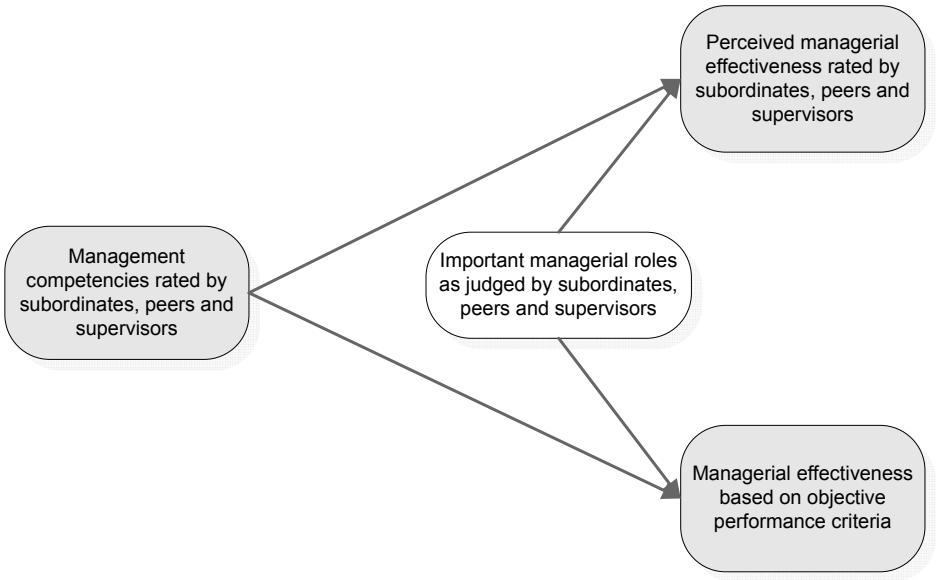

Figure 3 Research model

Effective managers, similar to effective organizations, need to simultaneously manage a multitude of relationships with individuals and groups affected by their actions and behaviours. To do so successfully, they need to be aware of, and responsive to, the expectations of not only their supervisors, but also their peers, subordinates and even members of other organizations with whom they have to deal. In turn, each of the rater groups - subordinates, peers, supervisors - has a different perspective (and bias) in observing the manager's behaviours (Bradley, 2004). The different raters observe, encode, store and recall different information about the same manager (Tsui and Ohlott, 1988). These different perspectives explain why different competencies predict effectiveness for each rater group. Furthermore, these different perspectives suggest different roles can have additional value in the relationship between competencies and effectiveness. Insight in these perspectives is necessary to answer the question if, and how, rater groups should be sub grouped and asked to provide information only on dimensions that are relevant for their work with the individual being rated (Toegel and Conger, 2003). In other words, should the 360-degree feedback instrument be customized for subordinates, peers, and supervisors using different 'master lists' with behavioural descriptions that are relevant for their particular referent group?

Some knowlegde already exists about subordinates', peers', and supervisors' perspectives on competencies and roles, and how they perceive managerial effectiveness. In the following paragraphs these findings are used to formulate the hypotheses.

2.5.1 Subordinates

Studies show that the subordinate perspective on managerial effectiveness contains a full spectrum of competencies and roles. That is, they do not appear to focus on one end of dimensions such as flexibility versus control, external- versus internal focus, or relationship versus results.

O'Driscoll, Humphries, and Larsen (1991) found that a manager's ability in the task categories 'motivating and rewarding subordinates', and 'decision making', are the most outstanding factors of high competence and effectiveness ratings by this group. Heinsman's (2008) findings show that subordinates value a manager that is involved with his co-workers and that takes action whenever necessary (action orientation, compassion, analytical ability). This is in line with the results of Bradley (2004) that a good relationship is equally important as good results to subordinates.

With respect to managerial roles, Hooijberg and Choi (2000) demonstrate that subordinates stress the goal achievement, broker and facilitator roles, indicating that assuring attainment of goals, setting clear goals, coordinating work and facilitating group processes have a strong relationship with perceptions of leadership effectiveness.

Subordinates often interact on a more frequent basis with the manager than other groups. They are the direct target of the managers' behaviour and are therefore likely to have a broader perspective on interpersonal relationship with the manager than peers or supervisors have. The manager must be able to achieve objectives through the efforts of others and this requires the use of relationship oriented competencies and roles. However, to be an effective manager (perceived as well as objective), good results are crucial as well. Which specific competencies will attribute most to the variance of effectiveness, or which roles subordinates will find most important, is therefore not immediately clear. However, we expect subordinates to have a distinct perspective from peers and supervisors on what constitutes an effective manager. In general, as a consequence of hierarchical distance, we expect their perspective to differ most from that of the supervisors. In addition, we expect their perspective to cover a broad spectrum of competencies. This is likely to result in more competencies attributing to the variance in effectiveness for subordinates than for peers and supervisors.

2.5.2 Peers

Heinsman (2008) demonstrates that peers value managers who interact easily, initiate and maintain relationships (networking) but who are also disciplined and tenacious (perseverance, analytical ability, and sociability). They would value a colleague who is outgoing and initiates and maintains interactions because this would lead not only to perceived effectiveness but also, through empowered followers, to organizational effectiveness, which serves the peers goals (Heinsman, 2008). This similar to Bradley's results (2004) that a good relationship and good results are equally important to peers as prerequisites of effective managers.

With respect to managerial roles, Hooijberg and Choi (2000) show that peers stress the facilitator and innovator roles, indicating that facilitating group processes and trying out new ideas have a strong relationship with being an effective manager.

Evidence also suggests that interpersonal, or relationship oriented, behaviour is more important to *peers* than to *supervisors* (Conway, Lombardo, and Sanders, 2001). Peers, for instance, observe more interactions between managers and subordinates than a supervisor does. We therefore expect them to have a more profound insight into the managers' behaviour than the supervisor does. More specific, we expect that for peers the competencies which are relationship oriented (compassion, sociability, and judgment) will attribute more to the variance in effectiveness than these do for supervisors.

Peers have to do the same job in the same environment and therefore they are in a position in which they do not only observe, but also experience the importance and relevance of the different managerial roles. They rate the manager from a horizontal perspective and have similar knowledge, expertise, and responsibilities for results as the managers they are rating. Peers ratings on managerial roles, therefore, may contain a bias toward organizational results.

Because of that, we expect the additional value of results oriented managerial roles, in the relationship between management competencies and managerial effectiveness, to be higher for peers than the additional value of the relationship oriented roles.

2.5.3 Supervisors

Supervisors expect their managers to produce good results, to contribute to the unit, and approve behaviours that motivate others (Conway, Lombardo, and Sanders, 2001). This is in line with the findings of Heinsman (2008) that supervisors seem to value managers that are involved with their co-workers, but they also appreciate, although to a lesser extent, discipline and tenacity (compassion, analytical ability, and perseverance). Bradley's (2004) results show that good results are slightly more important to supervisors than a good relationship in order to be perceived effective.

Concerning managerial roles, Hooijberg and Choi's (2000) findings show that supervisors stress the goal achievement and innovator roles. This indicates that assuring attainment of goals, setting clear goals, coordinating work and trying out new ideas have a strong relationship with perceptions of leadership effectiveness.

The supervisors' perspective will be focussed on job performance, which is measured by organizational results. As the supervisor him- or herself is also assessed, the workgroup results, as well as the resulting organizational results, are of high interest to the supervisor. The supervisor is also the rater who is in the best position to observe the results of the manager. We therefore expect that for supervisors, the results oriented competencies will attribute most to the variance in managerial effectiveness.

In sum, it is argued that subordinates, peers, and supervisors are likely to observe and value somewhat different management competencies and managerial roles. Each of the rater groups will therefore likely appreciate somewhat different competencies or different levels of these competencies. Also, for each source, the importance and relevance of differently perceived managerial roles will have additional value in this relationship. Therefore, the following hypotheses are formulated and tested:

Hypothesis 1: The intrarater (within group) agreement on management competencies and managerial roles will be higher than the interrater (between groups) agreement.
Disagreement between groups on competency ratings will be largest between supervisors and subordinates.

Hypothesis 2: Subordinates, peers, and supervisors have different perspectives of management competencies that are related to, perceived and objective, effectiveness.
More specifically, for subordinates, a broader set of competencies will attribute to the variance in effectiveness than for peers and supervisors. For peers, the more relationship oriented competencies will attribute more to the variance in effectiveness than for supervisors. For supervisors, the more on results oriented competencies will attribute most to the variance in managerial effectiveness.

Hypothesis 3: For each rater source, different managerial roles have additional value in the relationship between management competencies and effectiveness.
For peers, the additional value of results oriented roles, in this relationship, will be higher than the additional value of the relationship oriented roles.

3 Methodology

3.1 Participants and procedure

The study is conducted within an organization in the business services sector in The Netherlands, which employs approximately 450 people. The organization is divided in nine business units and 40 departments, each with their own manager. The smallest business unit consists of two departments, the largest of nine. The mean amount of subordinates per manager is 10, with one as a minimum and 33 as a maximum. All business units and all 40 departments participate in the study. An appeal to complete the questionnaire, including a short clarification, was posted on the intranet of the organization, and an e-mail was send to all individual managers. Both contained a URL so that the questionnaire could be completed online. A few weeks after the first appeal, a reminder was posted on the intranet of the organization, and again mailed to all managers. Furthermore, about a quarter of the managers (including the board) were personally contacted, as it pointed out to be difficult to obtain a satisfying response in the 'peers' and 'supervisors' groups.

Questionnaires on 40 different managers are completed, with a total of 242 surveys; this is a mean of 6.1 surveys per manager. Of the total amount, 155 (64.0%) surveys are completed by subordinates, 59 (24.4%) by peers, and 28 (11.6%) by supervisors. The response rates, as well as the subdivision of rater groups, are comparable to those in earlier studies (e.g., Heinsman, 2008; Hassan and Rohrbaugh, 2007; Atkins and Wood, 2002). For all 40 managers there are ratings from one or more subordinates. One or more peer ratings on 35 managers are completed, leaving 5 managers for whom no peer rating is provided. The ratings from the 28 supervisors are all completed on different managers, leaving 12 managers for whom no supervisor rating is provided. Of the 242 surveys, 151 (62.4%) are completed by male raters, and 91 (37.6%) by female raters. The average tenure is 12.1 years for subordinates, 9.7 years for peers, and 8.5 years for supervisors.

3.2 Measures

In the survey raters provide information on their gender, tenure, department, and their relationship to the ratee (subordinate, peer or supervisor). The survey further contains items on management competencies, importance of managerial roles, and perceived managerial effectiveness (see also appendix 1).

Six management competencies are measured using single-items on analytical ability, judgment, compassion, sociability, perseverance, and action orientation. Each item starts with: 'The person that I assess…', and is followed by the definition of a particular competency. For example: 'The person that I assess shows concern for the well-being of others and is perceptive' is used to measure the competency 'compassion'. Responses are given on a five-point scale, ranging from 1 (not at all) to 5 (very much so). These same single-item measurements of competencies are used by Heinsman (2008) and are highly applicable to managerial jobs, aligning earlier taxonomies (e.g., Hassan and Rohrbaugh, 2007; Bartram, 2005; Hooijberg and Choi, 2000; Tett, Guterman, Bleier, and Murphy, 2000).

To measure the importance of six managerial roles, a translated version of the Competing Values Framework (CVF) of Quinn is used (Hooijberg and Choi, 2000). The monitor, mentor, and facilitator scales each consist of three items, the innovator and broker scales both have four items, and the goal achievement scale consists of seven items. Examples of the items are, 'Comes up with inventive ideas', 'Makes the unit's role very clear', and 'Develops consensual resolution to openly expressed differences'. Responses are given on a scale ranging from 'not important at all' (a score of 1) to 'extremely important' (a score of 5). Note that the *importance* of managers performing these roles is assessed as apposed to the frequency or level of performance. The items of the monitor scale appear to have weak internal consistency for the supervisor rater group (.519). This similar to the findings of Hooijberg and Choi (2000) whose results show comparable internal consistency for the monitor role scale for both the supervisor and peer rating groups. All other alpha coefficients for the leadership roles scales are well above the .60 level and thus show satisfactory internal consistency (see also appendix 3, table 1).

Overall perceived managerial effectiveness is measured by five items, on a five-point scale, combining the scales used by Tsui (1984b) and Heinsman (2008). Both scales show a satisfactory internal consistency. As both scales together contain six items of which one is overlapping, a new scale, leaving one overlapping item out, is constructed with even higher internal consistency (above .90 for all three rater groups, see appendix 3, table 1). Examples of the items are 'How effective is the person you are evaluating as a leader?' and 'To what extent has he or she met your expectations in his or her managerial roles and responsibilities?'. The effectiveness scale measures the extent to which the manager has met the rater's performance expectations and provides an indication of how effective managers are perceived to be.

Assessments of more objective measures of managerial effectiveness have been collected by using the Balanced Score Card (BSC) performance ratings from the organization in this study. These contain performance outcomes that are used within the organization for purposes of evaluation, amendment, and strategy. They compose good measures of objective effectiveness and performance (i.e., Koene et al., 2002; Conway, Lombardo, and Sanders 2001; Waldman et al., 2001).

The four perspectives to measure performance (or effectiveness) are:

1. healthy financial organization
2. external confidence in the company
3. efficient and reliable organizational processes
4. employees' confidence in the organization

In appendix 2, an overview is presented with regard to the perspectives, sub cards, and examples of indicators.

Every indicator has three possible scores, on budget (3), under budget (5) or over budget (1). BSC data for each department are obtained from the planning and control department for the year of the survey and the year before (2008 and 2009). This objective effectiveness measure, containing two years of data, helps to guard against random fluctuations and provides a somewhat more long-term measure of effectiveness (De Hoogh et al., 2004). Scores for each year are first calculated per indicator. Subsequently average scores are calculated per perspective and averaged over the two years. Thus, a four item 'objective effectiveness' scale is constructed. The alpha coefficient for this objective effectiveness scale, consisting of four items is -.166, indicating that the four items do not correlate. Therefore, the four items or perspectives are used as separate measures of objective effectiveness.

3.3 Data analysis procedures

Mean peer and subordinate ratings for each manager are correlated with one another and with the supervisor ratings. To examine the relationship between variables, correlation analysis is used. To assess the significance of the difference between correlation coefficients found within and between rater groups, Fisher's r-to-z transformation is used. This statistical method is used because it is able to take different group sizes into account (Borman, 1997), which is relevant for the current study. Regression analysis is used to test the effects of management competencies and managerial roles on perceived and objective managerial effectiveness.

4 Results

Descriptives (means and standard deviations), and correlations on all variables are presented in appendix 3, table 2a. Per rater group, these data are presented in appendix 3, tables 2b through 2d. As can be derived from the correlations in tables 2a through 2d, there is no relationship between gender and tenure on the one hand and the dependent variables on the other hand. Therefore these variables are excluded from the remaining analyses.

4.1 Rating incongruence

Table 3 shows that the mean competency ratings significantly correlate within each rater group and poorly between rater groups. This indicates that differences between rater groups are indeed more profound than within each group. To examine the differences between the correlations within rater sources and the correlations between rater sources, a value of z is calculated using Fisher's r-to-z transformation. The difference between the mean correlation of subordinates and all interrater correlations prove significant (z = 3.21, p = <.01 subordinates-peers, z = 2.52, p = <.05 subordinates-supervisors, and z = 2.23, p = <.05 peers-supervisors). This means, the different competency ratings given by the same rater source are more similar than the same competency ratings given by different sources.

The mean interrater correlations, when rating the same competencies, are .22 between subordinates and peers, .18 between subordinates and supervisors, and .24 between peers and supervisors. Thus, subordinates and supervisors disagree most on competency ratings.

For roles, see table 4, the difference between the mean correlation of subordinates and subordinates-peers proves significant (z = 2.03, p = <.05). Therefore, the different ratings on the importance of managerial roles given by the same rater source appear more similar than the same managerial roles ratings given by different sources. Furthermore, the correlation between peers and supervisors is comparable to the correlation within supervisors.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Subordinate																	
1. Analytical ability																	
2. Judgment	.84**																
3. Compassion	.41**	.31															
4. Sociability	.55**	.48**	.72**														
5. Perseverance	.60**	.53**	.70**	.68**													
6. Action orientation	.68**	.59**	.66**	.67**	.90**												
Peer																	
7. Analytical ability	.37*	.32	.25	.37*	.16	.23											
8. Judgment	.15	.17	.06	.20	-.03	-.04	.63**										
9. Compassion	-.08	.16	.17	.08	.11	.08	.35*	.32									
10. Sociability	-.06	.10	.15	.14	.09	.01	.31	.65**	.53**								
11. Perseverance	-.11	.06	.23	.19	.35*	.20	.28	.35*	.26	.34							
12. Action orientation	-.11	-.06	.29	.30	.29	.14	.45**	.58**	.20	.54**	.75**						
Supervisor																	
13. Analytical ability	.20	.29	.20	.43*	.37	.25	.37	.24	.04	.34	.04	.36					
14. Judgment	-.06	-.02	-.11	.25	.20	.14	.24	.09	.21	.31	.17	.41*	.50**				
15. Compassion	.22	.30	-.16	.18	.11	.12	.31	.29	.46*	.40	.17	.32	.16	.48*			
16. Sociability	.10	.17	-.20	.11	-.10	-.05	.17	.11	.24	.18	.09	.14	.27	.55**	.61**		
17. Perseverance	.21	.16	.22	.20	.51**	.51**	-.06	-.16	.04	.09	.32	.16	.08	.29	.01	.24	
18. Action orientation	.06	-.02	-.10	.00	.15	.17	.33	.16	.10	.18	.15	.47*	.31	.56**	.35	.52**	.51**

Table 3 Correlations between separate competencies within and between rater sources

Notes: The peer (n = 59) and subordinate (n = 155) ratings were averaged for each manager before correlation, because of the varying numbers of peers and subordinates per ratee. With this approach each ratee is represented only once in the correlation.

* p <.05 ** p <.01. All tests are two-tailed.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Subordinate																	
1. Innovator																	
2. Broker	.54**																
3. Goal achievement	.69**	.60**															
4. Monitor	.25	-.22	.26														
5. Mentor	.30	.16	.38*	.37*													
6. Facilitator	.37*	.24	.55**	.37*	.51**												
Peer																	
7. Innovator	.14	.39*	-.02	-.24	-.18	.08											
8. Broker	-.05	.05	-.03	-.08	-.11	-.19	.17										
9. Goal achievement	-.03	-.06	-.17	-.06	.06	-.17	.09	.25									
10. Monitor	-.01	-.11	-.05	.19	.27	-.27	-.16	-.26	.42*								
11. Mentor	.23	.13	.20	-.01	.16	.01	-.01	-.06	.27	.45**							
12. Facilitator	.08	.28	.06	-.13	.10	.00	.51**	.23	.53**	.27	.49**						
Supervisor																	
13. Innovator	-.09	-.10	-.01	.20	.06	.10	.17	.21	-.13	-.23	-.20	.27					
14. Broker	.31	.11	.31	.41*	-.05	.18	-.10	.23	-.14	-.17	-.09	.02	.23				
15. Goal achievement	.34	.49**	.26	-.18	-.12	.00	.17	-.36	.05	.37	-.07	.12	-.14	.34			
16. Monitor	.09	.08	-.10	-.03	-.27	-.31	.15	-.19	.18	.37	.47*	.29	.07	.07	.24		
17. Mentor	.26	.12	.06	.00	.11	.18	-.18	-.23	-.07	-.09	.26	.00	-.11	.14	.08	.29	
18. Facilitator	.42*	.42*	.26	.06	.21	.33	-.07	-.47*	-.51**	-.16	-.16	-.12	.01	.23	.40*	-.10	.52**

Table 4 Correlations between separate roles within and between rater sources

Notes: The peer (n = 59) and subordinate (n = 155) ratings were averaged for each manager before correlation, because of the varying numbers of peers and subordinates per ratee.

* p <.05 ** p <.01. All tests are two-tailed.

4.2 Relationships between competencies and effectiveness

To test if rater groups have different perspectives of management competencies that are related to managerial effectiveness, regression analysis is conducted. The results for *perceived* effectiveness are presented, overall and per rater group, in table 5.

	Subordinate (*n* = 155)	**Peer** (*n* = 59)	**Supervisor** (*n* = 28)	**Overall** (*n* = 242)
Analytical ability	-.01	.11	.25†	.05
Judgment	.22**	.08	.03	.16**
Compassion	.18**	.21**	.11	.16**
Sociability	.12*	.31**	-.14	.16**
Perseverance	.26**	.08	.28†	.22**
Action orientation	.28**	.37**	.56**	.33**
R^2	.75	.78	.71	.73
F	73.79**	30.32**	8.67**	107.86**

Table 5 Results of regression analyses for separate competencies explaining perceived effectiveness overall and per rater source.

Note: Standardized regression coefficients are shown.

† p <.10 * *p* <.05 ** *p* <.01. All tests are two-tailed.

As can be seen in table 5, when both competencies and effectiveness are rated by subordinates, competencies explain a total of 75% of the variance in effectiveness, R^2 = .75, F = 73.79, p < .01. The explained variance is primarily accounted for by the competencies action orientation (ß = .28, p < .01), perseverance (ß = .26, p < .01), and judgment (ß = .22, p < .01). The two most important competencies for subordinates are oriented on results[1]. The emphasis on judgment by subordinates is typical for this group of raters, as for peers and supervisors this competency has no effect on effectiveness.

When both competencies and effectiveness are rated by peers, competencies explain a total of 78% of the variance in effectiveness, R^2 = .78, F = 30.32, p < .01. For a manager, in order to be perceived effective by his or her peers, action orientation (ß = .37, p < .01) is most important, followed by sociability (ß = .31, p < .01), and compassion (ß = .21, p < .01). Peers seem to put emphasis on the competency sociability more than both other rater groups. For subordinates it is the least important competency, whereas for supervisors sociability has no effect on effectiveness.

[1]In order to sustain this finding, the competencies are also divided into two groups; the more relationship oriented competencies, and the more results oriented competencies. These two constructed independent variables are subsequently regressed on perceived effectiveness. For subordinates, this indeed amplifies the notion that the combined results oriented competencies show a stronger association with perceived effectiveness than the combined relationship oriented competencies do. The findings for supervisors are also strongly confirmed by these additional analyses.

A total amount of 71% of the variance in effectiveness is explained for when both competencies and effectiveness are rated by supervisors, R^2 = .71, F = 8.67, p < .01. This effect is mostly attributable to action orientation (ß = .56, p < .01); the beta weights of perseverance (ß = .28, p < .10) and analytical ability (ß = .25, p < .10) are only marginal significant. Supervisors thus seem to focus explicitly on action orientation whereas for both other rater groups several competencies are of importance. Furthermore, the competencies which attribute to the explained variance for supervisors are all oriented on results.

The overall results show that competencies explain a total of 73% of the variance in effectiveness, R^2 = .73, F = 107.86, p < .01. The explained variance is accounted for by all competencies except analytical ability, which has no effect on effectiveness.

We now turn to more *objective* effectiveness outcomes, to examine the importance of differences in perception between rater groups. The results are presented, overall and per rater group, in table 6.

	healthy financial organization	external confidence in the company	efficient and reliable organizational processes	employees' confidence in the organization
Subordinate				
Analytical ability	-.03	.01	-.15	.02
Judgment	-.02	-.11	-.00	-.02
Compassion	.13	.08	-.05	-.03
Sociability	-.21†	-.24*	-.07	.17
Perseverance	.03	.02	.12	-.01
Action orientation	.04	.08	.03	.11
R^2	.03	.05	.03	.05
F	0.63	1.23	0.65	1.34
Peer				
Analytical ability	-.02	.07	-.13	-.05
Judgment	.07	-.12	-.03	.14
Compassion	-.51**	.14	-.16	-.13
Sociability	.27	-.06	-.00	.20
Perseverance	-.09	.24	.51*	-.16
Action orientation	.18	-.21	-.02	-.00
R^2	.23	.07	.19	.06
F	2.62*	0.62	2.07†	0.53
Supervisor				
Analytical ability	.01	-.31	-.01	-.06
Judgment	-.01	-.19	-.37	.08
Compassion	-.52*	.04	-.01	.20
Sociability	.49†	.00	.03	.12
Perseverance	.06	.08	.35	.18
Action orientation	.18	.45	-.08	-.18
R^2	.30	.23	.20	.10
F	1.47	1.06	0.85	0.37
Overall				
Analytical ability	-.03	-.05	-.15	-.00
Judgment	-.03	-.11	-.04	.05
Compassion	-.13	.09	-.08	-.04
Sociability	.02	-.19*	-.06	.19*
Perseverance	-.02	.08	.25**	-.39
Action orientation	.14	.08	.01	.44
R^2	.02	.04	.05	.04
F	0.72	1.56	2.20*	1.66

Table 6 Results of regression analyses for separate competencies explaining objective effectiveness overall and per rater source.

Note: Standardized regression coefficients are shown.

† p <.10 * *p* <.05 ** *p* <.01. All tests are two-tailed.

As shown in table 6, competencies rated by subordinates or supervisors do not explain a significant amount of variance in the effectiveness outcomes.

When rated by peers, a total of 23% of the variance in the perspective 'healthy financial organization', R^2 = .23, F = 2.52, p < .05 is explained for by competencies. The explained variance is accounted for by the competency compassion (ß = -.51, p < .01). For supervisors, the beta weight of compassion is similar (ß = -.52, p < .05), the overall explained variance is not significant, though. The overall and subordinates' results show no relation between compassion and this effectiveness outcome. It thus appears that for both peers and supervisors a higher score on compassion is related to a lower outcome in the effectiveness perspective 'healthy financial organization'.

Furthermore, 19% of the variance in the perspective 'efficient and reliable organizational processes' is explained for when competencies are rated by peers, R^2 = .19, F = 2.07, p < .10. This effect is attributable to perseverance (ß = .51, p < .05). The same relation between perseverance and this effectiveness outcome is found with respect to the overall results. Peers are thus the only rater group for whom this effect is displayed.

4.3 Additional value of managerial role perceptions

To test for the additional value of different managerial roles in the relationship between competency ratings and effectiveness, separate multiple regression analyses are conducted by adding the separate managerial roles to the regression[2]. The results of these regression analyses are shown in appendix 3, tables 7a through 7e.

For both subordinates and peers, the results explain no additional variance in *perceived* effectiveness. The total amount of variance, explained for by competencies and roles together, remains 75% for subordinates and 78% for peers. For the rater group supervisors, adding roles into the regression analysis increases the amount of explained variance. The change in R^2 is 4% when the innovator role is added, 2% for the broker role, and 1% for the facilitator role. See appendix 3, table 7a for the changes in the beta weights of different competencies. The innovator role itself also attributes to the total variance in perceived managerial effectiveness (ß = .22, p <.10).

[2]First we examined the gross effects of roles per rater source on both perceived and objective managerial effectiveness. The results are presented in appendix 3, tables 8 and 9. For subordinates, roles explain 14% of the total amount of variance in *perceived* effectiveness, with the monitor and facilitator roles as the main contributors. The monitor role is more oriented on *results*. The more on *relationship* oriented facilitator role shows a negative relationship with perceived effectiveness. For peers and supervisors no significant effects are found. With regard to *objective* effectiveness, no effects are found for subordinates. For peers, the explained variance in the perspective 'healthy financial organization' is significant with 27%, both the facilitator and monitor roles show a negative effect on this effectiveness outcome. For supervisors the explained variance, in the perspective 'efficient and reliable organizational processes', is significant and amounts to 48%. The on relationship oriented mentor role shows a negative, direct relationship with this effectiveness outcome.

In the perspective ‘healthy financial organization’ (appendix 3, table 7b), for peers, each role entered into the regression, increases the total amount of explained variance. When the, on results oriented, innovator role is added, the effect of the competency sociability on this effectiveness outcome becomes marginally significant, and the attribution of compassion shows a small increase. For supervisors these two competencies show similar effects (see appendix 3, table 7b), the total amount of explained variance however, is not significant for this rater group. The roles themselves are unrelated to this effectiveness outcome.

In the effectiveness outcome ‘external confidence in the company’ (see appendix 3, table 7c), adding the innovator role into the regression, results in a, marginally, significant explained amount of variance for the rater groups subordinates and supervisors (8%, and 42% respectively). For subordinates this is attributed to the innovator role itself (ß = -.19, p = <.*05*) and the competency sociability (ß = -.26, p = <.05). For supervisors the competency action orientation is the only competency attributing to the explained variance (ß = .45, p = <.10). Again, the innovator role attributes significantly to the total amount of explained variance and is the most powerful explanatory variable (ß = -.46, p <.05). For both subordinates and supervisors it therefore appears that a high score on the innovator role has a negative effect on ‘external confidence in the company’.

For peers, with regard to the perspective ‘efficient and reliable organizational processes’, the total amount of explained variance stays significant only when the goal achievement, monitor and mentor roles are added into the regression (appendix 3, table 7d). Here, the only significant, positive, contributor to the explained variance remains the competency perseverance. Adding the broker role results in a non significant amount of total explained variance. However, the attribution of the, on relationship oriented, broker role itself is significant and negative (ß = -.31, p <.05). This suggests that a high score on the broker role has a negative effect on ‘efficient and reliable organizational processes’, while a high score on perseverance has a positive effect.

Management competencies and managerial roles seem unrelated to the effectiveness outcome ‘employees’ confidence in the organization’ (appendix 3, table 7e).

5 Conclusion and discussion

Overall, results indicate that each rater group (subordinates, peers, and supervisors) has different perspectives on which roles are important and relevant for a specific manager to conduct. Also, each rater group has different perspectives on competencies that are related to managerial effectiveness. Furthermore, the results provide insight in the additional value of managerial role perceptions of different rater groups in the relationship between perceived management competencies and managerial effectiveness. The hypotheses of this study are mostly confirmed, sustaining the argument of Toegel and Conger (2003) that 360-degree feedback instruments should be customized.

First of all, ratings on competencies and roles are more similar within rater sources than ratings between rater sources. And disagreement between groups on competency ratings is largest between supervisors and subordinates. Therefore, the first hypothesis of this study is fully confirmed.

Second, for subordinates, peers, and supervisors, different competencies are related to *perceived* managerial effectiveness. And, for subordinates, *more* competencies attribute to the variance in effectiveness than for both other rater groups. For peers, the notion that competencies oriented on relationship will attribute more to the variance in effectiveness than for supervisors is confirmed. For supervisors, indeed the *only* competencies that attribute significant to the variance in effectiveness are those that are oriented on results. Therefore, the second hypothesis of this study is confirmed with regard to *perceived* effectiveness. With regard to *objective* effectiveness, hypothesis 2 is supported for peers, for whom the effects of the competencies compassion and perseverance on effectiveness were significant.

Third, for supervisors, the innovator, broker, and facilitator roles have additional value in the relationship between management competencies and *perceived* effectiveness. For all rater groups, different managerial roles have additional value in the relationship between management competencies and *objective* effectiveness. Therefore, hypothesis 3 is confirmed for supervisors with regard to perceived objectiveness, and for all rater groups with regard to objective effectiveness. For peers, the additional value of results oriented roles in this relationship is not higher than that of relationship oriented roles. Rather, it appears similar. And, thus, this part of hypothesis 3 is not supported.

The results further show that there is reasonable agreement *within* each rater source, for competencies as well as roles. Atkins and Wood (2002) point out, that intrarater agreement may be inflated as a result of extra survey factors such as discussion between raters, either regarding the survey, or in general regarding the ratee's behaviour. Results may also be inflated as the same respondents are used to measure competencies, roles, and perceived effectiveness, suggesting common method bias in the data set. However, there are indications that this effect is not so large that it invalidates most theoretical interpretations and research conclusions (Doty and Glick, 1998).

Disagreement on competency ratings is highest between supervisors and subordinates, whereas agreement is highest between peers and supervisors. Different perspectives of the rater groups are also found in the specific competencies that explain perceived effectiveness. The competency judgment is typical for subordinates, sociability more prominent for peers, and supervisors focus explicitly on action orientation in relation with perceived effectiveness. Also, significant relationships between competencies and *objective* effectiveness are found for the rater group peers, but not for subordinates and supervisors. Moreover, for peers, scores on *all* managerial roles have additional value in these relationships, but opposed to subordinates and supervisors, the roles themselves do *not* significantly attribute to the explained variance. This is similar to the findings of Tsui and Ohlott (1988) that peers hold different views than subordinates and supervisors do on the importance weights of managerial behaviours. This indicates that the reasons for incongruence, or different perspectives, may potentially be different for different rater sources. For example, informational differences may account for the low agreement between subordinates and supervisors (e.g., Tsui and Ohlott, 1988). The low correlation in scores between sources, and the different perspectives of rater groups found in this study, might reflect quite valid differences in opinion based on perceiving different managerial behaviour, or based on different weighting of the same behaviour of the ratee.

These findings may have practical implications for the use of 360-degree feedback for human resource practices, such as individual development and appraisal. Managerial effectiveness can be examined and assessed using multi-perspective approaches through customized 360-degree feedback instruments. Supervisors, as the results have shown, are in the best position to assess the manager's results oriented competencies. Their managerial role perception, or reference frame, is consistent with this perspective. Subordinates interact most frequent, and intensive, with the manager. Their perspective on competencies, and the relationship with effectiveness, is indeed the most extensive. Subordinates thus appear to be best positioned to give ratings on the full spectrum of competencies. Peers, in turn, are best positioned to assess which managerial roles are relevant and important. For them, the additional value of managerial role perceptions in the relationship between management competencies and managerial effectiveness is most prominent. Their perspective can be used as a basis to determine which competencies are relevant, and at what level, for a specific group of managers. Using these different rater perspectives, customized 360-degree assessment lists can be created for managers at a specific level in a specific organization. Subsequently, raters can be sub grouped and use different 'master lists' with behavioural descriptions that are relevant for their particular referent group. In this way, the valuable methodology, and objectives, of obtaining multiple points of view, which is the foundation of 360-degree feedback, is preserved.

Results further show that for all rater groups the competency action orientation is most important for a manager to be *perceived* effective. However, also for all rater groups, this competency shows *no* significant relationship with *objective* effectiveness. Action orientation thus creates the *impression* that one is effective rather than it is an actual prerequisite of *being* effective. A similar effect was found with regard to the competency compassion for peers and supervisors. These rater groups associate this competency *positively* with effectiveness (perceived), but it has a *negative* effect on the objective effectiveness outcome 'healthy financial organization'.

These findings can be explained by the effect of implicit leadership theories (ILT's), which suggest that raters have already formed an impression of the ratee before giving their rating on, for instance, effectiveness (Heinsman, 2008; Viswesvaran, Schmidt, and Ones, 2005). These ILT's thus influence the extent to which raters consider all relevant information when giving their ratings. The content stream of ILT research is substantial, but the issue of the actual composition of ILT's has yet to be fully resolved, and there is no single (or even a few) widely used measures for measuring ILT's (Koommoo-Welch, 2008). Some ILT researchers believe that all individuals possess a specific ILT, but managers in particular utilize their ILT's as part of their *role*, and that these ILT's are manifested as either behaviours, personality, or both. Examining the congruence between the ILT's of each rater group and perceptions of management competencies and managerial roles could lead to a better understanding of how these perspectives influence effectiveness ratings. Future research could therefore look further into the influence of ILT's on the assessment of competencies and effectiveness dimensions.

As discussed earlier (see again figure 2) managerial effectiveness is also dependent on the context, or environment, of an organization. Managerial roles can therefore be influenced by environmental factors, and alignment of roles to these factors may occur. Contextual factors, such as related to the organization, branch, and country, might be connected to the additional value of managerial role perceptions that were found. For instance, for all rater groups, appreciation of the innovator role has additional value in the relationship between competencies and objective effectiveness. Moreover, managers for whom this, *external* oriented, role is rated as important by subordinates and supervisors seem less effective in the perspective 'external confidence in the organization'. As external confidence in the organization is measured by indicators such as customer satisfaction and sales growth, scores on these indicators for managers of *internal* oriented departments can only be neutral (or not available). As one of the core values of the organization in this study is 'innovation', which is prominently visible and communicated throughout the entire organization, this may have elevated scores on the importance of this role.

For peers, the competency perseverance is *not significant* in explaining the variance in *perceived* effectiveness, but significantly explains variance in the effectiveness outcome 'efficient and reliable organizational processes'. Also for peers, managers for whom they assess the broker role to be important are less likely to have a good result in this effectiveness outcome. This might actually confirm the *importance* of being able to conduct this role for managers in the organization in this study, in which there are many departments involved - and interdependent - in the production process.

Subordinates associate the results oriented competencies more with managerial effectiveness than the relationship oriented competencies. Earlier research shows that subordinates relate *both* relationship- and results oriented competencies to effective managers, or even *prefer* relationship oriented competencies (e.g., O'Driscoll, Humphries, and Larsen, 1991; Bradley, 2004; Heinsman, 2008). Buttery and Holt (2000) explain that in the United States 'friendly and supportive' personality characteristics and people orientation are regarded as important by subordinates for managers, whereas Northern European subordinates value the more instrumental or task-oriented approach. This might explain the current findings. Again, this finding may also be specific for the organization in this study and mirror its results oriented culture.

The results oriented perspective, as found for subordinates, is even more prominent for the rater group supervisors. *Only* results oriented competencies attribute to the variance of perceived effectiveness for this rater group. Also, for supervisors, the on results oriented innovator role demonstrates a *positive* attribution with regard to *perceived* effectiveness. Although the results oriented perspective of supervisors found in the present study is, at first site, highly plausible, findings for supervisors should be interpreted with caution. The study is based on a relatively small sample of 40 managers and there are differences in the number of raters per source per manager. The number of supervisors that completed the survey (28) may have influenced the power of the analyses and consequently the strength of the relationships found.

Nevertheless, the organization in this study, positioned in the business services sector in The Netherlands, is a good environment to conduct the current research. Its culture and external environment are stable factors, and the objective measures of effectiveness are exactly the same for each department. This situation, however, is almost unique and the organization has particularities that may complicate the generalization of findings and conclusions to other organizations, branches and countries. So there is a need to explore similar phenomena in other organizations, industries and countries, and take culture-specific profiles of effective management into account. Furthermore, as alignment of managerial roles to contextual factors may occur, the additional value of managerial role perceptions in connection with the organizational environment seems an interesting avenue for future research.

6 References

Atkins, P.W.B., and Wood, R.E. (2002). Self- versus others' ratings as predictors of assessment center ratings: validation evidence for 360-degree feedback programs. *Personnel Psychology,* 55.

Bartram, D. (2005). The Great Eight Competencies: A Criterion-Centric Approach to Validation. *Journal of Applied Psychology,* Vol. 90, No. 6, 1185-1203.

Berry, N.H., Nelson, P.D., and McNally, M.S. (1966). A Note on Supervisory Ratings. *Personnel Psychology,* 19: 423-426.

Bommer, W.H., Johnson, J.L., Rich, G.A., Podsakoff, P.M., and MacKenzie, S.B. (1995). On the interchangeability of objective and subjective measures of employee performance: A meta-analysis. *Personnel Psychology,* 48, 587-605.

Borman, W.C. (1974). The Rating of Individuals in Organizations: An Alternate Approach. *Organizational Behavior and Human Performance,* 12: 105-124.

Borman, W. C. (1997). 360˚ ratings: an analysis of assumptions and a research agenda for evaluating their validity. *Human Resource Management Review,* Volume 7, Number 3, pages 299-315.

Borman, W.C., and Brush, D.H. (1993). More progress toward a taxonomy of managerial performance requirements. *Human Performance,* 6, 1-21.

Bradley, T.P. (2004). *Analysis of leadership perceptions using multirater feedback*. Dissertation, University of North Texas.

Breman, P. and Bruinsma, J. (2006). Leidt competentie tot prestatie? *Tijdschrift voor HRM,* 2.

Brutus, S., Fleenor, J.W., and Tisak, J. (1999). Exploring the Link between Rating Congruence and Managerial Effectiveness. *Canadian Journal of Administrative Sciences,* 16 (4), 308-322.

Buttery, N., and Holt, J. (2000). Subordinate Perceptions of What Constitutes an Effective Manager in Different Cultural Settings: Review and Research Agenda. *School of industrial relations and organisational behaviour,* The University of New South Wales.

Campbell, J.P., McHenry, J.J., and Wise, L.L. (1990). Modelling job performance in a population of jobs. *Personnel Psychology,* 43, 313-333.

Church, A.H., and Bracken, D.W. (1997). Advancing the state of the art of 360-degree feedback. *Group and Organisation Management,* 22(2), 149-161.

Conway, J.M., and Huffcutt, A.I. (1997). Psychometric properties of multisource performance ratings: A meta-analysis of subordinate, supervisor, peer, and self-ratings. *Human Performance,* 10, 331-360.

Conway, J.M., Lombardo, K, and Sanders, K.C. (2001). A Meta-Analysis of Incremental Validity and Nomological Network for Subordinate and Peer Ratings. *Human Performance,* 14(4), 267-303

De Hoogh, A.H.B., Den Hartog, D.N., Thierry, H., Van den Berg, P.T., Van der Weide, J.G., and Wilderom, C.P.M. (2004). Charismatic leadership, environmental dynamism, and performance. *European journal of work and organizational psychology,* 13 (4), 447-471.

Denison, D.R., Hooijberg, R., and Quinn, R.E. (1995). Paradox and performance: Toward a theory of behavioral complexity in managerial leadership. *Organization Science,* 6(5), 524-540.

Doty, D.H., and Glick, W.H. (1998). Common method bias: Does common methods variance really bias results? *Organizational Research Methods,* 1, 374-406.

Facteau, C., and Craig, S.B. (2001). Are performance appraisal ratings from different rating sources comparable? *Journal of Applied Psychology,* 86(2), 215-227.

Fiedler, F.E. (1978). The contingency model and the dynamics of the leadership process. In L. Berowitz (Ed.), *Advances in experimental social psychology,* New York: Academic Press.

Fletcher, C., and Baldry, C. (1999). Multi-source feedback systems: a research perspective, in Cooper, C.L., and Robertson, I.T. (eds) *International Review of Industrial and Organizational Psychology,* Vol. 14, John Wiley and Sons, Chichester, UK, pp. 149-193.

Fraser, C., and Zhu, C. (2008). Stakeholder perception of construction site managers' effectiveness. *Construction Management and Economics,* 26, 579-590.

Furnham, A., and Stringfield, P. (1998). Congruence in job-performance ratings: A study of 360 degree feedback examining self, manager, peers, and consultant ratings. *Human Relations*, 51(4), 517-530.

Gunderson, E.K.E., and Nelson, P.D. (1966). Criterion Measures for Extremely Isolated Groups. *Personnel Psychology,* 19: 67-82.

Hamlin, R. G. (2002). Towards a Generic Theory of Managerial Effectiveness: a meta-level analysis from organisations within the UK public sector. *Management Research Centre,* University of Wolverhampton.

Harris, M.M., and Schaubroeck, J. (1988). A Meta-Analysis of Self-Supervisor, Self-Peer, and Peer-Supervisor Ratings. *Personnel Psychology,* 41: 43-62.

Hassan, S., and Rohrbaugh, J. (2007). Incongruity in 360-degree Feedback Ratings and Competing Managerial Values: Evidence from a Public Agency Setting. University at Albany, State University of New York.

Heinsman, H. (2008). *The Competency Concept Revealed: Its Nature, Relevance and Practice*. Academisch proefschrift, Vrije Universiteit. Printpartners Ipskamp BV, Enschede.

Heneman, R.L. (1986). The relationship between supervisory ratings and results-oriented measures of performance: A meta-analysis. *Personnel Psychology,* 39, 811-826.

Hersey, P., Blanchard, K.H., and Johnson, D.E. (2001). *Management of organizational behaviour: Leading human resources.* Upper Saddle River, NJ: Prentice-Hall.

Hooijberg, R., and Choi, J. (2000). Which leadership roles matter to whom? An examination of rater effects on perceptions of effectiveness. *Leadership Quarterly,* 11(3), 341-362.

House, R.J. (1971). A path goal theory of leader effectiveness. *Administrative Sciences Quarterly,* 16, 321-338.

Howell, J.M., and Aviolo, B.J. (1993). Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated-business-unit performance. *Journal of Applied Psychology,* 78, 891-902.

James, A.P. (2003). Exploring differential item functioning in a 360-degree assessment: rater source and method of delivery. *Organizational Research Methods,* 6(1), 61-79.

Judge, T.A., Bono, J.E., Ilies, R., and Gerhardt, M.W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology,* 87, 765-780.

Koene, B.A.S., Vogelaar, A.L.W., and Soeters, J.L. (2002). Leadership effects on organizational climate and financial performance: Local leadership effect in chain organizations. *Leadership Quarterly,* 13, 193-215.

Koommoo-Welch, P. (2008). *Implicit Leadership Theories: Perceptions of Charisma, People, and Performance.* Dissertation, North Carolina State University, Raleigh, North Carolina.

Leslie, J.B., Dalton, M., Ernst, C., and Deal, J. (2002). Managerial effectiveness in a global context. *Center for Creative Leadership,* Greensboro, North Carolina.

Levy, P.E., and Williams, J.E. (2004). The social context of performance appraisal: A review and framework for the future. *Journal of Management,* 30(6), 881-905.

Lord, R.G., Brown, D.J., and Freiberg, S.J. (1999). Understanding the dynamics of leadership: The role of follower self-concepts in the leader/follower relationship. *Organizational Behavior and Human Decision Processes,* 78(3), 167-203.

Lord, R.G., Brown, D.J., Harvey, J.L., and Hall, R.J. (2001). Contextual constraints on prototype generation and their multilevel consequences for leadership perceptions. *Leadership Quarterly,* 12, 311-338.

Luken, T.P. (2004). Zijn competenties meetbaar? Dilemma en uitweg bij het werkbaar maken van het competentiebegrip. *Tijdschrift voor Hoger Onderwijs, 22,1.*

Luthans, F., Welsh, D.H.B., and Taylor III, L.A. (1988). A Descriptive Model of Managerial Effectiveness. *Group & Organization Studies,* 13(2), 148-162.

Mersman, J.L., and Donaldson, S.I. (2000). Factors Affecting the Convergence of Self-Peer Ratings on Contextual and Task Performance. *Human performance,* 13(3), 299-322.

Miller, J.S., and Cardy, R.L. (2002). Self-monitoring and performance appraisal: Rating outcomes in project teams. *Journal of Organizational Behavior,* 21, 609-626.

Mintzberg, H. (1973). *The Nature of Managerial Work.* New York: Harper and Row.

Murphy, K.R., and Cleveland, J.N. (1995). *Understanding performance appraisal: Social, organizational, and goal-based perspectives.* Thousand Oakes, CA: Sage.

Nagel, N. (1997). The 360-degree feedback avalanche. *HR Monthly,* issue September.

O'Driscoll, M.P., Humphries, M., and Larsen, H.L. (1991). Managerial activities, competence and effectiveness: manager and subordinate perceptions. *The International Journal of Human Resource Management,* 2:3

Penny, J. (2001). Differential item functioning an international 360-degree assessment: Evidence of gender stereotype, environmental complexity, and organizational contingency. *European Journal of Work and Organizational Psychology,* 10(3), 245-271.

Posner, B.Z., and Kouzes, J.M. (1988). Development and validation of the leadership practices inventory. *Educational and Psychological Measurement,* 78, 483-496.

Quinn, R.E. (1988). *Beyond rational management: Mastering the paradoxes and competing demands of high performance.* San Francisco: Jossey-Bass.

Salam, S., Cox, J., and Sims, H. (1997). In the eye of the beholder: How leadership relates to 360-degree performance ratings. *Group and Organization Management,* 22(2), 185-209.

Scullen, S.E., Mount, M.K., and Judge, T.A. (2003). Evidence of the construct validity of development ratings of managerial performance. *Journal of Applied Psychology,* 88(1), 50-66.

Smither, P.E., London, M., and Reilly, R.R. (2005). Does performance improve following multisource feedback? A theoretical model, meta-analysis, and review of empirical findings. *Personnel Psychology,* 58, 33-66.

Spencer, L.M. (2003). *The Talent Management Handbook*. McGraw-Hill, New York.

Stogdill, R.M. (1948). Personal factors associated with leadership: A survey of the literature. *Journal of Psychology,* 25, 35-71.

Tett, R.P., Guterman, H.A., Bleier, A., and Murphy, P.J. (2000). Development and content validation of a 'hyperdimensional' taxonomy of managerial competence. *Human Performance,* 13, 205-251.

Toegel, G. and Conger, J.A. (2003). 360-Degree Assessment: Time for Reinvention. *Academy of Management Learning and Education,* Vol. 2, No. 3, 297-311.

Tornow, W. (1993). Perceptions or reality: Is multi-perspective measurement a means or an end? *Human Resource Management,* 32, 221-230.

Tsui, A.S. (1984b). A role-set analysis of managerial reputation. *Organizational Behavior and Human Performance,* 34, 64-96.

Tsui, A.S. and Ohlott P. (1988). Multiple assessment of managerial effectiveness: interrater agreement and consensus in effectiveness models. *Personnel psychology,* 44.

Viswesvaran, C., Schmidt, F.L., and Ones, D.S. (2005). Is there a general factor in ratings of job performance? A meta-analytic framework for disentangling substantive and error influences. *Journal of Applied Psychology,* 90, 108-131.

Waldman, D., Atwater, L., and Antonioni, D. (1998). Has 360 feedback gone amok? *The Academy of Management Executive,* 12(2): 86-94.

Waldman, D.A., Ramirez, G.G., House, R.J., and Puranam, P. (2001). Does leadership matter? CEO leader attributes and profitability under conditions of perceived environmental uncertainty. *Academy of Management Journal,* 44, 134-143.

Warr, P., and Bourne, A. (2000). Associations between rating content and self-other agreement in multi-source feedback. *European Journal of Work and Organizational Psychology,* 9 (3), 321-334.

7 Appendices

Appendix 1: Questionnaire

1	Op welke afdeling werkt de leidinggevende waarover je de vragen beantwoordt?	
2	Wat is je geslacht?	☐ Man ☐ Vrouw
3	Hoeveel jaar ben je in dienst?	☐
4	Over wie worden onderstaande vragen beantwoord?	☐ Leidinggevende ☐ Directe collega (die ook leidinggevende is) ☐ Ondergeschikte (die ook leidinggevende is)

Kruis hieronder aan wat het meest van toepassing is op de persoon die je beoordeelt.

1 = helemaal niet 5 = helemaal

		1	2	3	4	5
5	**De persoon die ik beoordeel analyseert problemen en onderscheidt verschillende elementen**	O	O	O	O	O
6	**De persoon die ik beoordeel integreert informatie om een besluit te nemen of een oplossing voor te stellen**	O	O	O	O	O
7	**De persoon die ik beoordeel toont zorg voor het welzijn van anderen en is oplettend**	O	O	O	O	O
8	**De persoon die ik beoordeel initieert en onderhoudt contacten met anderen en is gemakkelijk in de omgang**	O	O	O	O	O
9	**De persoon die ik beoordeel kan goed tegen druk en tegenslag, is gedisciplineerd en heeft doorzettingsvermogen**	O	O	O	O	O
10	**De persoon die ik beoordeel neemt initiatief, is in staat om anderen te beïnvloeden en weerstand te overwinnen om doelen te bereiken**	O	O	O	O	O
11	**In welke mate is het functioneren van de persoon die je evalueert bevredigend?**	O	O	O	O	O
12	**In welke mate komt hij/zij tegemoet aan je verwachtingen in zijn/haar management rollen en verantwoordelijkheden?**	O	O	O	O	O
13 R	**Als jij het voor het zeggen had, in welke mate zou je dan de manier waarop hij/zij de baan uitvoert veranderen?**	O	O	O	O	O
14	**Hoe capabel is de persoon die je evalueert als leidinggevende?**	O	O	O	O	O
15	**Hoe effectief is de persoon die je evalueert als leidinggevende?**	O	O	O	O	O

Geef bij onderstaande vragen aan hoe belangrijk je het vindt dat de persoon die je beoordeelt zich hiermee bezig houdt

1 = onbelangrijk 5 = extreem belangrijk

		1	2	3	4	5
16	**Komt met inventieve ideeën**	O	O	O	O	O
17	**Experimenteert met nieuwe concepten en procedures**	O	O	O	O	O
18	**Lost problemen op een creatieve en slimme manier op**	O	O	O	O	O
19	**Zoekt naar innovaties en potentiële verbeteringen**	O	O	O	O	O
20	**Probeert de hogere lagen in de organisatie te beïnvloeden**	O	O	O	O	O
21	**Beïnvloedt de besluiten die op hogere niveaus worden genomen**	O	O	O	O	O
22	**Heeft toegang tot de mensen op de hogere niveaus**	O	O	O	O	O
23	**Verkoopt overtuigend nieuwe ideeën aan de hogere niveaus**	O	O	O	O	O
24	**Zorgt voor een resultaat gerichte oriëntatie op de afdeling**	O	O	O	O	O
25	**Ziet erop toe dat de afdeling de afgesproken doelen haalt**	O	O	O	O	O
26	**Krijgt de afdeling zover dat ze de verwachte doelen haalt**	O	O	O	O	O
27	**Maakt de rol van de afdeling erg duidelijk**	O	O	O	O	O
28	**Verduidelijkt de prioriteiten en richting van de afdeling**	O	O	O	O	O
29	**Anticipeert op problemen in de werkstroom, vermijdt crisis**	O	O	O	O	O
30	**Zorgt voor een gevoel van orde en coördinatie op de afdeling**	O	O	O	O	O
31	**Behoudt strikte logistieke controle**	O	O	O	O	O
32	**Bewaakt naleving van de regels**	O	O	O	O	O
33	**Vergelijkt overzichten, rapporten en dergelijke om afwijkingen op te sporen**	O	O	O	O	O
34	**Is meelevend en bezorgd in de omgang met ondergeschikten**	O	O	O	O	O
35	**Behandelt elk individu op een gevoelige, zorgzame manier**	O	O	O	O	O
36	**Hecht belang aan de behoeften van ondergeschikten**	O	O	O	O	O
37	**Faciliteert de vorming van consensus binnen de afdeling**	O	O	O	O	O
38	**Zorgt ervoor dat de belangrijke meningsverschillen tussen groepsleden aan de oppervlakte komen en werkt dan mee aan het oplossen ervan**	O	O	O	O	O
39	**Ontwikkelt gezamenlijke oplossingen voor openlijk geuite meningsverschillen**	O	O	O	O	O

Appendix 2: Example Balanced Score Card

Main perspectives	Sub cards	Indicators
Healthy financial organization	• Guard budget	• Personnel costs • Investments
	• Improve operating profit	• operational result • total turnover* • total direct costs • total passed costs
	• Guard contract financing	• contract financing
External confidence in the company	• realize sales growth	• subscriptions • number products/customer • number customers/product
	• enhance sales communication	• visits to customers
	• improve customer satisfaction	• % satisfied veterinary practices • customer satisfaction survey*
	• analyse market potential	• participants export packages** • entries export support**
	• guard tender courses	• tenders agreed • tenders signed
Efficient and reliable organizational processes	• improve transparency of processes	• timekeeping • ISO certification
	• improve turnaround time	• laboratory analyses • laboratory analyses relevantly to last year
	• optimize knowledge level	• hours knowledge intake
	• enhance efficiency	• turnover per FTE • FTE (employment) • Total employable FTE's
	• web based operations	• Infotheek: data specifications • Plan do act/annual plans
	• stimulate product development	
Employees' confidence in the organization	• Change to result oriented culture	• ratio permanent/variable staff*
	• optimize employee satisfaction/ innovation	• employee satisfaction survey • absenteeism*

* Preset targets by board of directors
** Examples of department specific indicators

Appendix 3: Tables

	Innovator	Broker	Goal Achievement	Monitor	Mentor	Facilitator	Perceived managerial effectiveness
Subordinate (*n* =155)	.684	.898	.870	.733	.863	.818	.942
Peer (*n*=59)	.679	.886	.740	.665	.792	.799	.917
Supervisor (*n*=28)	.664	.887	.797	.519	.801	.748	.914

Table 1 Cronbach's Alpha scales on managerial roles and perceived managerial effectiveness

		M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Gender	1.38	.49																		
2	Tenure	11.01	8.36	-.13*																	
3	Analytical ability	3.77	0.91	-.12	.03																
4	Judgment	3.72	0.93	-.11	.04	.70**															
5	Compassion	3.45	1.06	-.04	-.02	.38**	.41**														
6	Sociability	3.62	1.06	-.08	-.01	.44**	.52**	.58**													
7	Perseverance	3.66	0.98	-.04	-.02	.51**	.55**	.40**	.51**												
8	Action orientation	3.58	1.12	-.06	.06	.55**	.62**	.42**	.54**	.70**											
9	Innovator	3.84	0.53	-.01	.03	.17**	.17*	.09	.08	.17**	.13*										
10	Broker	4.08	0.69	.02	-.06	.25**	.17**	.09	.13*	.13*	.18**	.32**									
11	Goal achievement	4.02	0.58	.07	-.10	.21**	.20**	.21**	.16*	.20**	.13*	.47**	.47**								
12	Monitor	3.28	0.78	.15*	.12	.14*	.16*	.22**	.13*	.15*	.14*	.27**	-.02	.42**							
13	Mentor	3.75	0.69	-.06	-.06	.17**	.14*	.20**	.20**	.08	.09	.17**	.21**	.39**	.24**						
14	Facilitator	3.84	0.64	.00	-.04	.05	-.02	.09	.04	-.01	-.03	.37**	.36**	.54**	.27**	.56**					
15	Perceived managerial effectiveness	3.47	0.87	-.10	.01	.59**	.67**	.56**	.65**	.71**	.76**	.20**	.16*	.50**	.21**	.13*	.03				
16	healthy financial organization	2.98	0.50	-.02	-.12	-.02	-.01	-.09	-.01	.01	.05	-.08	-.04	-.00	-.13*	.06	-.04	-.04			
17	external confidence in the company	3.25	0.95	.02	-.01	-.09	-.11	-.02	-.14*	-.01	-.03	-.18**	-.05	-.03	-.05	-.05	-.02	-.10	.31**		
18	efficient and reliable organizational processes	3.30	0.50	-.06	.09	-.10	-.07	-.09	-.06	.10	.01	-.07	-.09	-.02	-.13*	-.11	-.07	.03	.09	.27**	
19	employees' confidence in the organization	2.81	1.00	.01	.17	.11	.13*	.09	.19**	.10	.13*	.08	.04	.04	.06	-.01	-.01	.16*	-.04	-.35**	-.16*

Table 2a Means, standard deviations, and correlations among variables

* p <.05 ** p <.01. All tests are two-tailed.

Note: Gender: 1 = male, 2 = female; tenure in years; a 5-point response scale was used on all other variables

		M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Gender	1.45	.50																		
2	Tenure	12.12	9.14	-.24**																	
3	Analytical ability	3.77	0.97	-.14	.03																
4	Judgment	3.72	1.01	-.12	.04	.74**															
5	Compassion	3.40	1.09	.02	-.05	.44**	.41**														
6	Sociability	3.66	1.09	-.07	-.06	.52**	.53**	.63**													
7	Perseverance	3.68	1.01	-.00	-.01	.60**	.60**	.47**	.57**												
8	Action orientation	3.59	1.16	-.05	.10	.63**	.66**	.45**	.52**	.73**											
9	Innovator	3.75	0.54	.08	.07	.23**	.26**	.17*	.14	.25**	.22**										
10	Broker	4.12	0.70	-.03	-.05	.25**	.19*	.13	.17*	.17*	.22**	.43**									
11	Goal achievement	3.92	0.62	.07	-.09	.28**	.24**	.23**	.23**	.23**	.19*	.54**	.57**								
12	Monitor	3.20	0.76	.14	.14	.20*	.15	.24**	.20*	.16*	.16*	.37**	.07	.42**							
13	Mentor	3.73	0.74	.00	-.03	.20*	.09	.20*	.20*	.04	.07	.25**	.26**	.45**	.22**						
14	Facilitator	3.79	0.68	.06	.05	.09	-.01	.07	.08	-.02	.00	.40**	.43**	.43**	.29**	.59**					
15	Perceived managerial effectiveness	3.45	0.92	-.08	-.01	.64**	.70**	.60**	.65**	.75**	.76**	.26**	.19*	.25**	.25**	.10	.03				
16	healthy financial organization	3.00	0.51	-.07	-.10	-.05	-.05	.01	-.11	-.03	-.02	-.06	-.10	.02	-.10	.05	.03	-.07			
17	external confidence in the company	3.28	0.98	-.01	-.07	-.10	-.14	-.07	-.19*	-.09	-.07	-.20*	-.03	-.13	-.17*	-.14	-.05	-.13	.36**		
18	efficient and reliable organizational processes	3.30	0.51	-.03	.04	-.11	-.07	-.09	-.09	-.01	-.03	-.14	-.01	-.06	.07	-.10	-.07	-.02	.10	.24**	
19	employees' confidence in the organization	2.83	0.99	-.03	.20	.15	.14	.13	.21**	.16*	.18*	.05	.04	.07	.10	.06	.01	.20*	-.07	-.38**	-.13

Table 2b Means, standard deviations, and correlations among variables for subordinates (n = 155)

* p <.05 ** p <.01. All tests are two-tailed.

Note: Gender: 1 = male, 2 = female; tenure in years; a 5-point response scale was used on all other variables

		M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Gender	1.34	.48																		
2	Tenure	9.66	7.09	.02																	
3	Analytical ability	3.75	0.76	.00	.20																
4	Judgment	3.69	0.86	-.08	.09	.65**															
5	Compassion	3.58	0.99	-.20	.06	.32*	.40**														
6	Sociability	3.49	1.06	-.13	.13	.27*	.47**	.47**													
7	Perseverance	3.59	0.95	-.22	-.10	.33**	.44**	.40**	.43**												
8	Action orientation	3.56	1.01	-.11	-.08	.33*	.52**	.38**	.60**	.66**											
9	Innovator	3.99	0.47	-.03	.15	-.04	-.17	-.16	-.03	.08	-.10										
10	Broker	4.05	0.68	.07	-.10	.23	.16	-.01	-.01	.09	-.01	.15									
11	Goal achievement	4.20	0.46	.30*	-.01	.02	.10	.02	.03	.14	-.09	.28*	.33*								
12	Monitor	3.50	0.84	.19	.14	-.02	.14	.17	.02	.11	.01	-.02	-.25	.46**							
13	Mentor	3.78	0.61	-.29*	-.11	.05	.28*	.19	.26*	.26*	.18	-.03	.08	.31*	.30*						
14	Facilitator	3.94	0.60	-.09	.11	-.01	-.03	.09	-.08	.02	-.16	.37**	.23	.60**	.30*	.46**					
15	Perceived managerial effectiveness	3.47	0.83	-.13	.14	.46**	.60**	.60**	.73**	.61**	.76**	-.04	.02	.01	.13	.29*	-.00				
16	healthy financial organization	2.92	0.48	.06	.20	-.03	.05	-.33*	.14	-.03	.13	-.06	.12	.10	-.18	.13	-.20	.00			
17	external confidence in the company	3.28	0.85	-.07	.05	.04	-.05	.10	-.05	.11	-.07	.07	-.10	.19	.16	.18	.09	-.03	.12		
18	efficient and reliable organizational processes	3.34	0.46	-.21	.23	-.04	.04	-.01	.08	.38**	.20	.14	-.27*	-.04	.19	.02	-.05	.21	.19	.35**	
19	employees' confidence in the organization	2.65	1.01	.24	.16	.01	.08	-.06	.12	-.08	.02	.16	-.02	-.04	.05	-.22	-.12	.06	-.03	-.28*	-.17

Table 2c Means, standard deviations, and correlations among variables for peers (n = 59)

* p <.05 ** p <.01. All tests are two-tailed.

Note: Gender: 1 = male, 2 = female; tenure in years; a 5-point response scale was used on all other variables

		M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Gender	1.07	.26																		
2	Tenure	8.46	4.56	-.06																	
3	Analytical ability	3.82	0.86	-.27	-.39*																
4	Judgment	3.82	0.61	.08	-.12	.50**															
5	Compassion	3.46	1.07	.01	.25	.13	.47*														
6	Sociability	3.68	0.82	-.06	.03	.28	.55**	.60**													
7	Perseverance	3.64	0.87	.12	.03	.16	.29	-.01	.25												
8	Action orientation	3.57	1.07	-.02	-.02	.36	.56**	.31	.51**	.55**											
9	Innovator	4.01	0.46	-.31	-.20	.14	.20	-.07	.11	-.04	.07										
10	Broker	3.88	0.66	-.05	-.37	.35	.10	.14	.25	.00	.35	.23									
11	Goal achievement	4.15	0.44	.04	.12	.03	.01	.28	.08	.27	.13	-.14	.34								
12	Monitor	3.29	0.71	.42*	.21	.09	.38*	.16	.14	.29	.32	.07	.07	.24							
13	Mentor	3.74	0.52	.14	-.30	.17	.23	.25	.06	-.05	.04	-.11	.14	.08	.29						
14	Facilitator	3.89	0.44	-.04	-.01	-.09	-.07	.24	.00	.06	.00	.01	.23	.40*	-.10	.52**					
15	Perceived managerial effectiveness	3.57	0.70	-.07	-.15	.48**	.53**	.25	.37	.59**	.78**	.24	.38*	.20	.24	.03	.13				
16	healthy financial organization	2.98	0.50	.08	-.29	.15	.13	-.17	.28	.28	.30	-.16	-.06	-.21	-.12	.01	-.12	.05			
17	external confidence in the company	2.97	1.01	.22	.27	-.23	-.05	.05	.08	.22	.29	-.47*	-.16	.35	.23	.08	.05	-.03	.35		
18	efficient and reliable organizational processes	3.26	0.53	.09	.30	-.16	-.31	-.20	-.14	.21	-.09	-.12	-.20	.29	.27	-.42*	-.25	.05	-.11	.34	
19	employees' confidence in the organization	3.04	1.03	-.19	-.04	.00	.16	.24	.22	.13	.07	.13	.20	.17	-.07	-.01	.20	.11	.03	-.29	-.26

Table 2d Means, standard deviations, and correlations among variables for supervisors (*n* = 28)

* *p* <.05 ** *p* <.01. All tests are two-tailed.

Note: Gender: 1 = male, 2 = female; tenure in years; a 5-point response scale was used on all other variables

Subordinate		Innovator	Broker	Goal achievement	Monitor	Mentor	Facilitator
Analytical ability	-.01	-.01	-.01	-.01	-.01	-.00	-.01
Judgment	.22**	.21**	.22**	.22**	.22**	.22**	.22**
Compassion	.18**	.18**	.18**	.18**	.17**	.18**	.18**
Sociability	.12*	.13*	.12*	.12*	.12*	.13*	.12*
Perseverance	.26**	.26**	.26**	.26**	.26**	.26**	.26**
Action orientation	.28**	.28**	.28**	.28**	.28**	.28**	.28**
role		.04	.01	.01	.06	-.01	.01
R^2 (ΔR^2)	.75	.75 (.00)	.75 (.00)	.75 (.00)	.75 (.00)	.75 (.00)	.75 (.00)
F	73.79**	63.19**	62.83**	62.89**	64.09**	62.88**	62.87**
Peer							
Analytical ability	.11	.10	.11	.11	.13	.13	.11
Judgment	.08	.09	.08	.08	.06	.05	.08
Compassion	.21**	.23**	.21**	.21**	.20*	.21**	.20*
Sociability	.31**	.30**	.31**	.31**	.32**	.30**	.32**
Perseverance	.08	.05	.08	.07	.07	.06	.06
Action orientation	.37**	.38**	.36**	.37**	.38**	.38**	.39**
role		.06	-.02	.01	.07	.07	.07
R^2 (ΔR^2)	.78	.78 (.00)	.78 (.00)	.78 (.00)	.78 (.00)	.78 (.00)	.78 (.00)
F	30.32**	26.00**	25.52**	25.50**	26.07**	26.11**	26.12**
Supervisor							
Analytical ability	.25†	.25†	.19	.25†	.24	.26†	.25†
Judgment	.03	-.03	.09	.04	.06	.04	.06
Compassion	.11	.18	.11	.10	.12	.13	.05
Sociability	-.14	-.17	-.16	-.13	-.15	-.15	-.11
Perseverance	.28†	.31*	.32*	.27	.29†	.28†	.25
Action orientation	.56**	.56**	.48*	.56**	.56**	.55**	.56**
role		.22†	.16	.03	-.06	-.06	.13
R^2 (ΔR^2)	.71	.75 (.04)	.73 (.02)	.71 (.00)	.72 (.00)	.72 (.00)	.73 (.01)
F	8.67**	8.75**	7.75**	7.09**	7.19**	7.17**	7.56**

Table 7a Results of regression analyses for competencies affected by separate roles explaining perceived effectiveness per rater source.

Note: Standardized regression coefficients are shown.

† p <.10 * *p* <.05 ** *p* <.01. All tests are two-tailed.

Subordinate		Innovator	Broker	Goal achievement	Monitor	Mentor	Facilitator
Analytical ability	-.03	-.02	-.01	-.03	-.01	-.05	-.04
Judgment	-.02	-.01	-.02	-.02	-.02	-.01	-.01
Compassion	.13	.14	-.13	.13	.15	.12	.13
Sociability	-.21†	-.21†	-.20†	-.21†	-.20†	-.22†	-.21†
Perseverance	.03	.04	.02	.02	.03	.04	.03
Action orientation	.04	.04	.05	.04	.04	.05	.04
role		-.06	-.10	.03	-.10	.08	.04
R^2 (ΔR^2)	.03	.03 (.00)	.03 (.01)	.03 (.00)	.03 (.01)	.03 (.01)	.03 (.00)
F	0.63	0.62	0.72	0.55	0.73	0.66	0.58
Peer							
Analytical ability	-.02	-.00	-.05	-.00	-.04	.02	-.02
Judgment	.07	.04	.06	.04	.11	.02	.08
Compassion	-.51**	-.53**	-.50**	-.50**	-.49**	-.52**	-.49**
Sociability	.27	.29†	.27	.26	.26	.25	.27
Perseverance	-.09	-.05	-.10	-.13	-.07	-.12	-.07
Action orientation	.18	.15	.21	.24	.16	.21	-.15
role		-.11	.13	.14	-.11	.15	-.11
R^2 (ΔR^2)	.23	.24 (.01)	.25 (.02)	.25 (.02)	.24 (.01)	.25 (.02)	.24 (.01)
F	2.62*	2.34*	2.39*	2.43*	2.35*	2.43*	2.34*
Supervisor							
Analytical ability	.01	.01	.10	.03	-.02	-.01	.01
Judgment	-.01	.07	-.10	-.07	.07	-.04	-.02
Compassion	-.52*	-.61*	-.51*	-.41	-.50†	-.55*	-.51†
Sociability	.49†	.54*	.52†	.45	.45	.51†	.49†
Perseverance	.06	.01	-.01	.14	.10	.06	.06
Action orientation	.18	.18	.30	.18	.21	.19	.18
role		-.28	-.25	-.20	-.22	.13	-.01
R^2 (ΔR^2)	.30	.37 (.07)	.34 (.04)	.33 (.03)	.33 (.04)	.31 (.01)	.30 (.00)
F	1.47	1.66	1.46	1.37	1.43	1.28	1.20

Table 7b Results of regression analyses for competencies affected by separate roles explaining perspective 'healthy financial organization' (objective effectiveness) per rater source.

Note: Standardized regression coefficients are shown.

† p <.10 * *p* <.05 ** *p* <.01. All tests are two-tailed.

Subordinate		Innovator	Broker	Goal achievement	Monitor	Mentor	Facilitator
Analytical ability	.01	.01	.00	.02	.03	.04	.01
Judgment	-.11	-.08	-.11	-.11	-.12	-.12	-.12
Compassion	.08	.09	.07	.08	.10	.09	.07
Sociability	-.24*	-.26*	-.24*	-.23*	-.23*	-.22†	-.23*
Perseverance	.02	.05	.02	.03	.02	.00	.02
Action orientation	.08	.08	.08	.07	.08	.07	.08
role		-.19*	.00	-.10	-.15†	-.11	-.04
R^2 (ΔR^2)	.05	.08 (.03)	.05 (.00)	.06 (.01)	.07 (.02)	.06 (.01)	.05 (.00)
F	1.23	1.83†	1.05	1.24	1.53	1.30	1.08
Peer							
Analytical ability	.07	.07	.10	.09	.10	.12	.07
Judgment	-.12	-.11	-.11	-.15	-.16	-.19	-.12
Compassion	.14	.14	.12	.15	.11	.13	.13
Sociability	-.06	-.06	-.06	-.07	-.04	-.09	-.06
Perseverance	.24	.23	.26	.19	.22	.20	.24
Action orientation	-.21	-.21	-.24	-.15	-.19	-.18	-.20
role		.04	-.13	.16	.14	.21	.03
R^2 (ΔR^2)	.07	.07 (.00)	.08 (.02)	.09 (.02)	.08 (.02)	.10 (.04)	.07 (.00)
F	0.62	0.53	0.65	0.71	0.66	0.82	0.53
Supervisor							
Analytical ability	-.31	-.31	-.22	-.35	-.28	-.33	-.31
Judgment	-.19	-.05	-.29	-.09	-.27	-.23	-.19
Compassion	.04	-.10	.04	-.15	.03	-.01	.04
Sociability	.00	.08	.04	.07	.04	.04	-.00
Perseverance	.08	.00	.01	-.07	.05	.09	.08
Action orientation	.45	.45†	.59†	.46†	.43	.47	.45
role		-.46*	-.28	.36	.21	.18	-.01
R^2 (ΔR^2)	.23	.42 (.18)	.29 (.05)	.33 (.10)	.27 (.03)	.26 (.03)	.23 (.00)
F	1.06	2.05†	1.15	1.41	1.04	1.00	0.87

Table 7c Results of regression analyses for competencies affected by separate roles explaining perspective 'external confidence in the company' (objective effectiveness) per rater source.

Note: Standardized regression coefficients are shown.

† p <.10 * *p* <.05 ** *p* <.01. All tests are two-tailed.

Subordinate		Innovator	Broker	Goal achievement	Monitor	Mentor	Facilitator
Analytical ability	-.15	-.14	-.15	-.14	-.16	-.13	-.14
Judgment	-.00	.02	.00	.00	.01	-.01	-.01
Compassion	-.05	-.04	-.05	-.05	-.07	-.05	-.05
Sociability	-.07	-.08	-.07	-.07	-.07	-.06	-.06
Perseverance	.12	.14	.12	.12	.12	.11	.12
Action orientation	.03	.03	.03	.03	.03	.03	.03
role		-.13	.02	-.03	.11	-.06	-.04
R^2 (ΔR^2)	.03	.04 (.02)	.03 (.00)	.03 (.00)	.04 (.01)	.03 (.00)	.03 (.00)
F	0.65	0.92	0.56	0.57	0.82	0.63	0.59
Peer							
Analytical ability	-.13	-.14	-.06	-.14	-.09	-.15	-.13
Judgment	-.03	-.01	.00	.00	-.08	.00	-.02
Compassion	-.16	-.14	-.19	-.16	-.19	-.15	-.15
Sociability	-.00	-.02	-.01	.01	.01	.01	-.01
Perseverance	.51*	.48**	.55**	.55**	.48**	.53**	.52**
Action orientation	-.02	.00	-.08	-.07	.01	-.03	-.04
role		.08	-.31*	-.12	.18	-.08	-.05
R^2 (ΔR^2)	.19	.20 (.01)	.28 (.09)	.21 (.01)	.22 (.03)	.20 (.01)	.20 (.00)
F	2.07†	1.80	2.85	1.88*	2.06†	1.79†	1.77
Supervisor							
Analytical ability	-.01	-.01	.06	-.04	.05	.03	-.01
Judgment	-.37	-.36	-.44	-.29	-.54†	-.30	-.46
Compassion	-.01	-.02	-.01	-.16	-.04	.09	.15
Sociability	.03	.04	.06	.09	.11	-.04	-.03
Perseverance	.35	.35	.30	.24	.28	.34	.42†
Action orientation	-.08	-.08	.01	-.07	-.13	-.11	-.09
role		-.03	-.20	.28	.43†	-.36†	-.34
R^2 (ΔR^2)	.20	.20 (.00)	.22 (.03)	.25 (.06)	.34 (.14)	.31 (.11)	.30 (.10)
F	0.85	0.70	0.81	0.97	1.46	1.26	1.20

Table 7d Results of regression analyses for competencies affected by separate roles explaining perspective 'efficient and reliable organizational processes' (objective effectiveness) per rater source.

Note: Standardized regression coefficients are shown.

† p <.10 * *p* <.05 ** *p* <.01. All tests are two-tailed.

Subordinate		Innovator	Broker	Goal achievement	Monitor	Mentor	Facilitator
Analytical ability	.02	.02	.03	.02	.02	.02	.03
Judgment	-.02	-.02	-.02	-.02	-.02	-.02	-.02
Compassion	-.03	-.03	-.03	-.03	-.04	-.03	-.03
Sociability	.17	.18	.18	.17	.17	.17	.18
Perseverance	-.01	-.01	-.01	-.01	-.01	-.01	-.01
Action orientation	.11	.11	.11	.11	.11	.11	.11
role		.01	-.02	.02	.06	.02	-.01
R^2 (ΔR^2)	.05	.05 (.00)	.05 (.00)	.05 (.00)	.06 (.00)	.05 (.00)	.05 (.00)
F	1.34	1.15	1.15	1.15	1.21	1.15	1.15
Peer							
Analytical ability	-.05	-.07	-.04	-.05	-.03	-.11	-.05
Judgment	.14	.19	.14	.15	.12	.24	.15
Compassion	-.13	-.09	-.13	-.13	-.14	-.12	-.11
Sociability	.20	-.17	.20	.20	.21	.25	.20
Perseverance	-.16	-.23	-.16	-.15	-.17	-.10	-.15
Action orientation	-.00	-.05	-.01	-.02	.01	-.05	-.03
role		.20	-.02	-.04	.07	-.28†	-.10
R^2 (ΔR^2)	.06	.09 (.04)	.06 (.00)	.06 (.00)	.06 (.00)	.13 (.07)	.07 (.01)
F	0.53	0.75	0.45	0.46	0.48	1.05	0.52
Supervisor							
Analytical ability	-.06	-.07	-.17	-.08	-.09	-.06	-.06
Judgment	.08	.04	.20	.11	.15	.10	.13
Compassion	.20	.24	.19	.14	.21	.21	.11
Sociability	.12	.09	.07	.14	.09	.10	.15
Perseverance	.18	.21	.26	.14	.21	.18	.15
Action orientation	-.18	-.18	-.33	-.17	-.16	-.18	-.17
role		.16	.31	.10	-.17	-.07	.17
R^2 (ΔR^2)	.10	.12 (.02)	.17 (.07)	.10 (.01)	.12 (.02)	.10 (.00)	.12 (.02)
F	0.37	0.38	0.57	0.33	0.39	0.32	0.39

Table 7e Results of regression analyses for competencies affected by separate roles explaining perspective 'employees' confidence in the organization' (objective effectiveness) per rater source.

Note: Standardized regression coefficients are shown.

† p <.10 * *p* <.05 ** *p* <.01. All tests are two-tailed.

	Subordinate (*n* = 155)	**Peer** (*n* = 59)	**Supervisor** (*n* = 28)	**Overall** (*n* = 242)
Innovator	.15	.07	.12	.14†
Broker	.15	.10	.33	.15*
Goal achievement	.10	-.10	-.02	.06
Monitor	.20*	.15	.29	.19**
Mentor	.08	.37*	-.18	.14†
Facilitator	-.25*	-.20	.19	-.24**
R^2	.14	.13	.24	.12
F	4.03**	1.26	1.08	5.08**

Table 8 Results of regression analyses for separate roles explaining perceived effectiveness overall and per rater source.

Note: Standardized regression coefficients are shown.

† p <.10 * *p* <.05 ** *p* <.01. All tests are two-tailed.

	healthy financial organization	external confidence in the company	efficient and reliable organizational processes	employees' confidence in the organization
Subordinate				
Innovator	-.04	-.19†	-.20*	.01
Broker	-.22*	.06	.13	.04
Goal achievement	.17	-.02	-.06	.02
Monitor	-.17†	-.10	.19*	.10
Mentor	.03	-.15	-.10	.07
Facilitator	.08	.12	-.01	-.09
R^2	.05	.07	.06	.02
F	1.22	1.78	1.43	0.40
Peer				
Innovator	.00	.08	.25†	.22
Broker	-.04	-.19	-.21	.07
Goal achievement	.51**	.26	-.07	-.07
Monitor	-.37*	-.03	.20	.21
Mentor	.34*	.19	.08	-.19
Facilitator	-.55**	-.13	-.15	-.15
R^2	.27	.09	.14	.11
F	3.23**	0.86	1.44	1.02
Supervisor				
Innovator	-.19	-.40†	-.11	.10
Broker	.08	-.18	-.23	.12
Goal achievement	-.20	.31	.30	.08
Monitor	-.09	.21	.38†	-.05
Mentor	.09	-.03	-.53*	-.11
Facilitator	-.11	.01	.00	.20
R^2	.10	.37	.48	.10
F	0.37	2.05	3.18*	0.37
Overall				
Innovator	-.06	-.22**	-.09	.08
Broker	-.09	-.02	-.03	.03
Goal achievement	.14	.08	.02	.01
Monitor	-.18*	-.02	.18*	.05
Mentor	.12	-.08	-.13	-.01
Facilitator	-.08	.08	-.02	-.07
R^2	.04	.04	.05	.01
F	1.71	1.72	1.90†	0.43

Table 9 Results of regression analyses for separate roles explaining objective effectiveness overall and per rater source.

Note: Standardized regression coefficients are shown.

† p <.10 * *p* <.05 ** *p* <.01. All tests are two-tailed.